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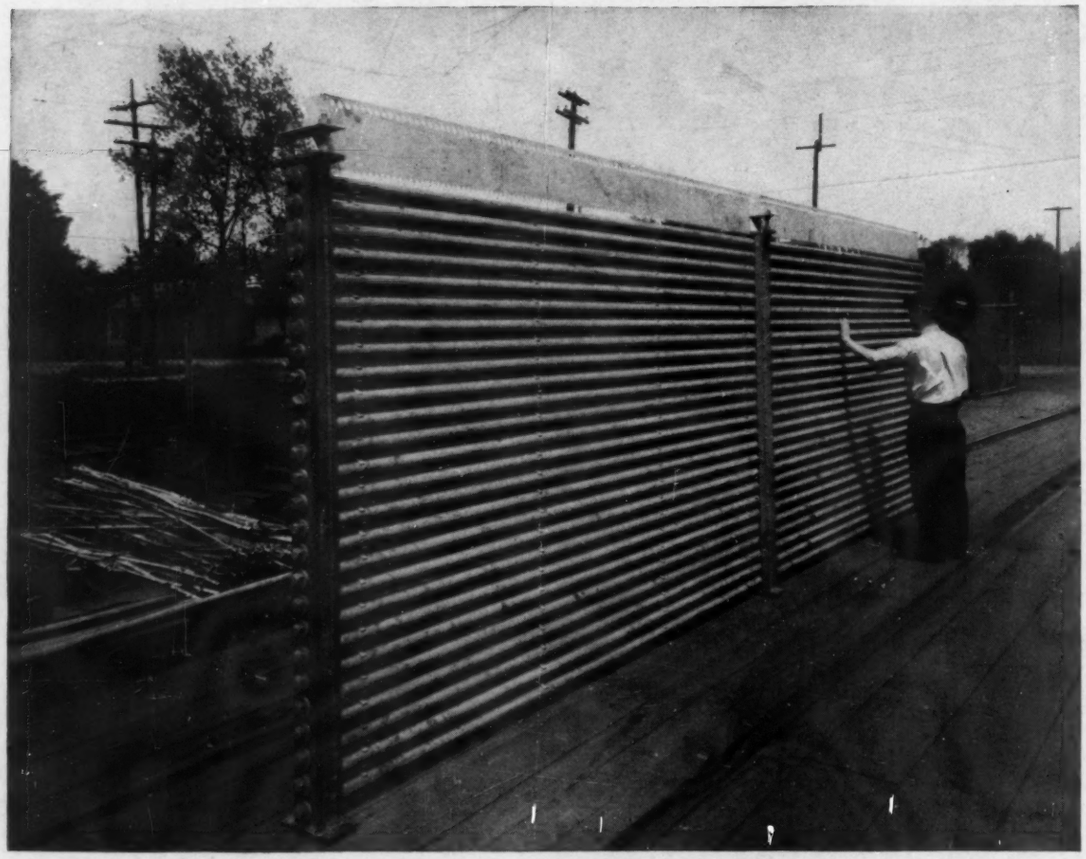

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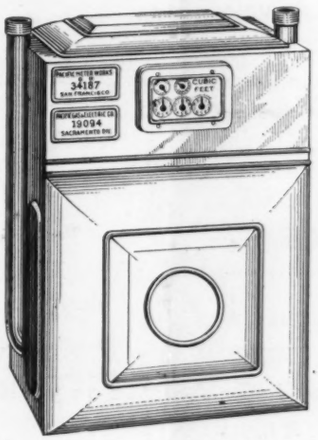

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Official Publication Of The
Pacific Coast Gas Association

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Volume I **October, 1925** **Number 6**

Western Gas is published monthly at 626 South Spring St., Los Angeles, California, by Jay E. Jenkins. Subscription price (in advance) 20 cents the copy; $2.00 per year; 3 years $5.00; $3.00 per year foreign. Entered as second-class matter June 1, 1925, at the postoffice at Los Angeles, California, under the Act of March 3, 1879.

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WESTERN GAS

A Monthly Journal of the Gas, Gas Appliance and Natural Gasoline Industries in the *Eleven Western States*

The Furthering *of* Employees' Activities

—is Aim of L. A. Gas and Electric Corporation. New Office Home Has Employee Floor. Association Group Organized

By D. L. Scott

Manager Public Relations, Los Angeles Gas and Electric Corporation

EMPLOYEE welfare is a big subject on the program of practically every business today. The realization that a contented employee is usually a permanent employee and an efficient worker has been current for quite some time, and nowhere is permanency and efficiency needed more among employees than in the business of serving the public with its daily necessities—in other words, in the public utility business.

In the face of these facts it was not surprising that Los Angeles Gas and Electric Corporation, in erecting the new office building which it has been occupying since January, made provision therein for the comfort and entertainment of its employees. The entire twelfth floor of the building has been designed for employee use. There is a large assembly hall with a floor for dancing, men's and women's lounges, card rooms, and space for a lunch room. A piano and a radio offer opportunity for entertainment and music, and a dance orchestra in the customers' department is available on occasion. In addition, the Corporation encourages and supports employee basketball, baseball and bowling teams which have, for the most part, made splendid records among the industrial teams in the community.

Recently, too, employee activities have been guided in the direction of education, and in an arousing of interest generally in the accomplishments and efforts of the gas industry to advance and to improve its methods. This has been done largely through a focussing of employee attention on the work of the Pacific Coast Gas Association.

On the evening of September 16th, there was held in the Assembly Hall of the office home of Los Angeles Gas and Electric Corporation an employee meeting that had a unique purpose—at least as far as the history of employee activities of this corporation is concerned. The subject of the meeting, as broadcasted to the workers, was "Tales of Portland." In this case, Portland stood for the recent convention of the Pacific Coast Gas Association held at Portland, Oregon; and the "Tales" signified a recital of some of the convention activities by those who had been in attendance as representatives of Los Angeles Gas and Electric Corporation. All employees were welcome; and special invitations were extended to those employees who are members of the P. C. G. A. and to the participants in a recent "On-to-Portland" examination held by the company. And thereby hangs another "tale."

A Corner of the Men's Lounge, Employees' Floor in New Home of Los Angeles Gas and Electric Corporation.

Course of Study for Employees

Early in June of this year, it was announced that the management had authorized a course of study for employees which was to terminate in an examination in which the twenty people standing highest would receive prizes. And the chief prize was to be a free trip to the Portland Convention of the Pacific Coast Gas Association. Hence the term "On-to-Portland" examination. Needless to say, with such a mark to shoot at, the enrollment was large and the interest high.

The course of study was in charge of a committee of officials and was designed to give tthe student a general, and as non-technical as possible, knowledge of gas and electric manufacture and distribution, gas and electric meters, rates and rate-making, and the Corporation's history, pension and insurance systems, its preferred stock, and general commercial methods and policies. Lectures were given once a week, begin-

(*Continued on Page* 33)

The Gas Industry's Testing Laboratory

Work of Appliance Testing is Well Under Way at the Laboratory Recently Established by the A. G. A. at Cleveland

By R. M. Connor

Director, American Gas Association Appliance Testing Laboratory

WHEN the appliance testing laboratory of the American Gas Association went into operation on July 31st of this year, the manufactured gas industry of the North American continent, acting as a unit, took a notable national step in meeting its obligation to the gas-consuming public for the best, most efficient and most economical utilization of its product.

For many years leaders of the industry whose work brought them in close contact with the appliance situation in all of its ramifications have hoped for the day when the industry could stand unqualifiedly behind its appliances just as it does behind its product. From the first, the means sought to accomplish this have revolved about a central testing laboratory whose principal objective would be to establish and maintain high standards for all gas appliances.

The appliance testing laboratory is the result. Into it have been built the hopes and aims of the Association to serve the public to the best of its ability. That the laboratory will fulfill these expectations is the desire of every forward-looking gas man as well as the representatives of governmental bureaus, which are lending us their fullest cooperation. Today, with the laboratory completing its first testing work, we hear the opinion expressed on all sides that this movement is destined to be the rallying point around which the gas industry and the gas-consuming public will be brought to a better understanding of each other.

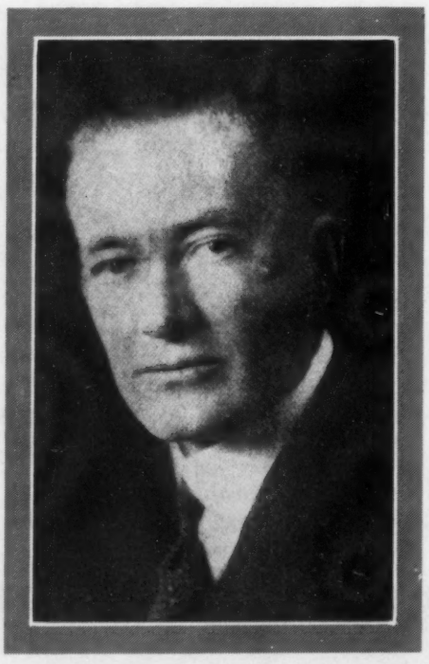
In preparing this article I have been governed largely by the thought that Western gas men would be interested in the following three major topics: First, where the laboratory is located; second, its progress, and third, its future plans.

Location of Laboratory

Our laboratory is located at the No. 2 plant of the East Ohio Gas Company, foot of East 62nd Street, Cleveland, Ohio. Cleveland was selected for the following reasons: (a) Because it is a large manufacturing center; (b) Is rather centrally located; (c) Has four different kinds of gases available for research work, and (d) Appeared a more logical choice from all other angles than any other large city considered.

Work of remodeling buildings, installing laboratory equipment and recruiting personnel began about June 1st. On July 31st approximately two months after the first section of our staff arrived in Cleveland, the laboratory went into operation by beginning tests on flexible gas tubing. About two weeks later, research work was commenced on gas ranges, and at the present writing preliminary plans are well under way toward completion.

Tests on all samples of tubing presented by members of our Association



R. M. Connor

who manufacture such products have now been completed, marking the laboratory's first definite accomplishment.

The rapidity with which our plans materialized can be attributed largely to the thorough ground work laid by various laboratory committees. Our president, Mr. H. C. Abell, was formerly a member of one of these committees. A great deal of assistance has also been given by the East Ohio Gas Company through Mr. R. W. Gallagher, its vice-president and general manager, and chairman of our laboratory managing committee.

Early in the history of our laboratory plans, the necessity of an impartial supervising body was recognized. For this reason an impartial managing committee was selected from our gas and manufacturer company members, having no interests other than those of the industry and the public. The personnel of this committee follows:

R. W. Gallagher, Chairman (Vice-President and General Manager East Ohio Gas Co., Cleveland, Ohio); A. H. Hall, (President, Central Union Gas Co., New York, N. Y.); J. S. DeHart, Jr., (President, Isbell-Porter Co., Newark, N. J.); R. B. Harper, (Chief Testing Engineer, Peoples Gas Light and Coke Co., Chicago, Ill.); N. T. Sellman, (Engineer of Utilization, Consolidated Gas Co. of N. Y., New York, N. Y.).

Mr. A. H. Hall, in addition to being a member of the above group, is also chairman of the general specifications committee. This arrangement assures the desired coordination of effort between these two organizations. Messrs. Harper and Sellman are in charge of large appliance testing laboratories for their respective companies and are well qualified to deal with problems of laboratory management. The other two members of the committee are men of broad experience in the gas industry and are exceptionally well qualified to serve on a committee of this kind.

The laboratory's test procedures are governed by the general specifications committee, which has charge of the preparation of standard construction and performance specifications for all types of gas appliances. This body is representative of the manufactured and natural gas industries as well as the Bureau of Standards, Bureau of Mines, Public Health Service and Master Plumbers' Association. Generally speaking, it is difficult to imagine a more competent or impartial group.

Western Committeemen

The actual preparation of specifications has been assigned to various sub-committees. Western gas men represented on these bodies are: Messrs. E. L. Hall, General Superintendent, Portland Gas and Coke Co.; H. L. Masser, Gas Engineer, Los Angeles Gas and Electric Corp.; C. B. Babcock, President, C. B.

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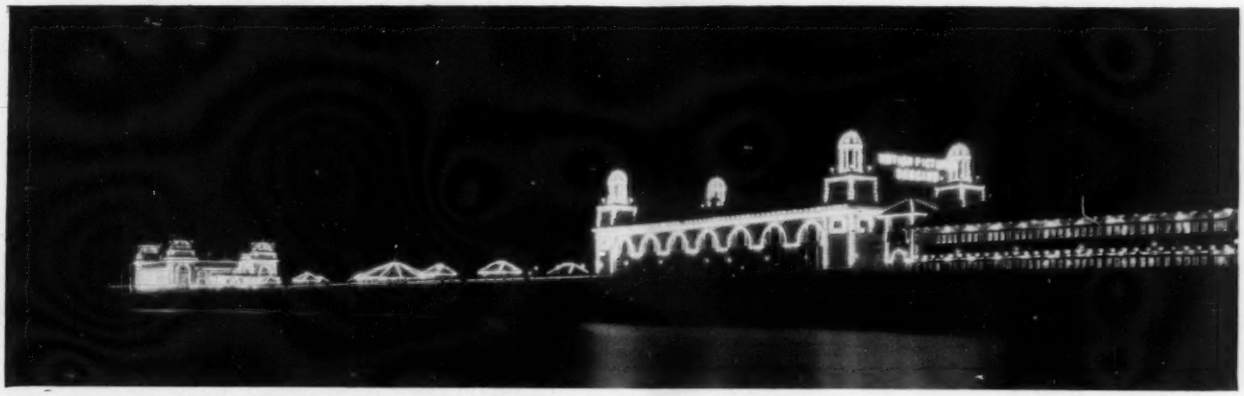


American Gas Association Convention Headquarters—the Steel Pier at Atlantic City

American Gas Association Convenes *in* Annual Session, Oct. 12 *to* 16 *at* Atlantic City

Seventh Annual A. G. A. Convention Gives Promise of Being Most Representative Gathering of Gas Industry Ever Held

NOW that the Portland sessions are a thing of the past, progressive western thought in the gas industry is turning eastward, as plans mature for what gives promise of being the most representative and complete convention ever conducted under American Gas Association auspices. The Seventh Annual A. G. A. convention, October 12 to 16, at Atlantic City is to set new marks in Association activity, in the program as planned, the advance reservations of delegates and the unprecedented response of exhibitors may be regarded as auguries.

Future of Gas is Theme

The theme of the convention is All-American—in fact, even wider—in scope, for the program and proceedings are built around "The Future of the Gas Industry" as a guiding motif. Western delegates will find in the business and general sessions an offering as broad as the industry itself, and may feel assured of payment in full for the somewhat extended journey that must be made.

Both convention and exhibition this year will be housed in ample quarters provided on the Steel Pier of Atlantic City, a favorite convention center. The Pier has undergone extensive enlargement and improvement since the fire of last winter which wrought considerable damage on the waterfront. Most of the Pier will be given over to exhibitors, and nearly 200 manufacturers have engaged space, every possible phase of the industry being represented more extensively than ever before.

According to recent word from Association headquarters the call to the convention has been issued to almost a thousand gas companies and manufacturers of appliances and equipment, and a very general response is anticipated, arrangements having been made to seat more than 5,000 delegates, committeemen and others in attendance.

Information Workers Meet

One feature which is given a prominent place on the program as a distinctly new branch of Association endeavor is the national conference of the state committees on public utility information. This work, beginning with the formation of the Illinois committee in 1919, has attained such proportions that it rightly occupies a place in the convention sessions. Twenty-eight states in the Union have public utility information committees today, and through regional committee activity the work reaches 36 states. Speakers bureaus are maintained by 19 of the committees, 18 of them carry on educational work through schools and colleges in their states, many of them conduct a display advertising service for utilities, and all of them supply news services to the press.Since its beginning the utility information committee movement has been actively supported by the American Gas Association, the National Electric Light Association and the American Electric Railway Association. The present conference is said to be the first time that the committees have met together as a whole.

The conference opens with a round-table luncheon presided over by H. C. Abell, president of the American Gas Association, and many of the leading executives of the industry will be present.

Two sessions, on Wednesday and Thursday afternoons, are to make up the utility committee program, and the conference is to be opened to all public utility representatives who care to listen in. A publicity and advertising exhibit promoted by several of the state committees will be held in connection with the conference.

Another exhibit to be presented is that of the accounting section. This is the fourth consecutive year this section has prepared an exhibit, and the most modern of accounting practices and equipment are certain to be well in evidence. Companies of all sizes are represented on the committee preparing the exhibit, assuring the delegates of a chance to see a system in use that will apply to their own work. A complete bookkeeping system will be seen in operation in one booth, and in an adjoining booth will be displayed a modern system of "stores accounting." An exhibit of statistical forms will also be made.

Entertainment Plans

Veteran delegates, and those looking forward to their first experience as convention-goers as well, will be glad to learn that entertainment plans have not been neglected by those in charge of the Atlantic City sessions. The entertainment committee has an elaborate program in store for visitors, and all for one price—a single fee of $2.00, paid as registration at the convention, entitling the members to participate in all branches of amusement planned by the committee.

(*Continued on Page* 37)

Can We Do It Better *with* Gas? Confidence *in* Our Commodity *Is* Secret *of* Sales

By H. Elliott Taylor

"WELL SIR," the whirlwind salesman remarked, as he eased himself into the spare chair, "I'm out now selling a line of lead pencils. Our pencils are considerably higher priced than other pencils and just between you and me, they aren't nearly as satisfactory. The lead is sort of soft; not the proper kind of wood in them and the erasers fall out after the first time they are used. We have considerable trouble making shipments too, as the factory isn't very well equipped for quantity production."

Not exactly a good argument to sell pencils, is it? And to tell the truth, we never heard it presented as it is written here. But we have heard men on the firing line of the gas industry admit that gas costs more than oil, and that electricity was cleaner and more convenient than gas. We have heard them moan about the competition they are up against, until we are moved to wonder, "What in the name of all that is sacred is keeping the public sold on gas?"

If there is any one attribute that any salesman must have it is absolutely rock-ribbed, iron clad enthusiasm for his proposition. It seems almost a waste of time to make that statement here. And the only possible justification for mentioning it is that while salesmen everywhere know it to be true, about one-half of one per cent pay any attention to it when the time comes to put it into practice.

And that doesn't mean the kind of enthusiasm that is in its element when it is up waving its arms in one of the periodic pep rallies that precede some cooperative effort of the industry. Even this is all right if it is genuine, and if it lasts after the dinner has been digested and the cigar ashes swept off the hotel carpet; in other words, till it can be put to work getting results.

Too much talk in conference and not enough to customers is an evil that every one of us can be scrupulously careful to avoid. We are all of us sold on the idea that gas is an ideal fuel when we are sitting in on a discussion, where three dozen or three hundred others all agree with us. But how about that invincible confidence when we are up against a lot of hot arguments that the oil burner man is equipped with?

You may know all of the talking points in your little red sales manual by heart, but if they aren't backed up by a personal conviction that every word is gospel truth, they might as well be put on a phonograph record and played outside the prospect's door with a soft needle.

There are men engaged in the business of selling GAS who believe in it. And mark this point they believe first of all in GAS—not in the XYZ stove or the KLX Furnace or the TNT Gas Company. And without exception this enthusiasm for their whole industry that pervades their systems finds expression in the eminent success of their own individual stove, or furnace or company.

Even our Western gas companies themselves seem to be strangely reticent on the matter of promoting the sale of this valuable commodity. Where we have a combination company, we too often see the spectacle of a mighty shout and hurrah constantly going out on the subject of using electricity for every purpose. And the gas department modestly admits, under sever cross examination that it too has an humble little offering to make to the user of heat and light.

And the gas department, not content with the fact that it is being harder and harder pressed by its competitors in different fields, finds a little additional cause for worry by contemplating that great and awful spectre "the peak load." "All of the winter load we can carry; all of the domestic load we can carry," is the sad and lugubrious wail.

All too true, perhaps. But how about the business that does not add to the bugbear "peak load?" How much is being done to extend the use of industrial gas? A new advertising campaign now being conducted by the American Gas Association is designed to carry this message, "If it is done by heat, you can do it better with gas," into scores or more of the most important industries of the country. Through the use of thirty trade papers having a combined total circulation of almost a third of a million, this message is being sent home week after week, month after month. Twenty-one gas companies, only one of which is in the West, believe that they can extend the industrial use of gas by advertising its uses. And they are backing this confidence with thousands of dollars of their own money.

There is a need of a broader outlook and a stronger confidence in this western industry of ours. And it is as much needed in our public utilities as it is in the newest salesman on the floor of a

(*Continued on Page* 37)

ONE OF A SERIES OF ADVERTISEMENTS SPONSORED BY THE AMERICAN GAS ASSOCIATION
If it is done with heat better you can do it with gas
Cleaner shops, reduced fuel bills, more accurate temperature control—with gas
A VARNISH manufacturer who is firing his cooking pots with gas says: "I'm making better varnish than I ever made before with other fuels; and I'm saving 90c on every gallon."
A large Southern steel plant has installed a newly developed furnace which burns gas. The chief says "by using gas we have slashed our production costs $8.10 per ton."
Another manufacturer converted his wire heat-treating equipment to gas. By doing so, he says, "I have eliminated scale — saving $24,000 a year, which I couldn't save with other fuel."
Every industry is using city gas — more and more each day. Gas is cutting the costs of heating operations; and improving the quality of finished work. One authority says "city gas is simply coal freed of dirt and ashes, involving no handling costs and waste — it is coal stripped for action."
When you use city gas, you pay no labor for handling and stoking; you save storage space in your plant; you eliminate the nuisance caused by ashes; you have fuel always on tap for immediate use twenty-four hours per day.
Gas is the best industrial fuel.
For instance . . . in the Paint Industry
Whether the varnish cooking job requires a quick cook or a slow one, gas is efficient. It gives a heat that can be regulated at will; the right temperature needed for each batch can be maintained under all conditions. Necessity of wood and ash removal is eliminated; no injurious grit and soot. Labor is saved, cooks are clean, production is speeded; and the cost per cook is less.
GAS-FIRED VARNISH COOKING POTS
Read the magazine, INDUSTRIAL GAS. It will show you how manufacturers are using city gas. And it will give you some good ideas on heat applications. Write for your copy now. American Gas Association, 342 Madison Avenue New York.
Gas is the ideal fuel for Industrial Heat

This Type of Advertisement, Sponsored by the American Gas Association, Is Selling Gas to American Industry

The Natural Gas Situation *in* Colorado

Excellent Possibilities for Natural Gas Are Found in Several Points Throughout State. Conservative Development is Urged. Rate Structures Should be Studied

By Geo. Wehrle
Superintendent, Gas Department, Public Service Company of Colorado

SINCE the discovery of natural gas near Fort Collins on November 11, 1923, there has been a great deal of conjecture as to the effect of this discovery upon the future gas supply of cities and towns in Colorado. It is for the purpose of acquainting the utility men of this section with present conditions and to outline the possible effects of natural gas upon the communities where it might be served that this paper is presented.

Scattered throughout the State of Colorado are several structures that indicate possibilities for the production of natural gas and oil. Since the discovery of gas at Wellington every contour that looks like a structure has been exploited as a possible gas or oil producer, and a considerable amount of wildcat drilling is now under way. With the exception of the Craig district, where several wells are now producing oil and gas, the only proven structures are those in the vicinity of Fort Collins.

Promising Structures

North of Fort Collins are three well defined structures known as the Wellington. Fort Collins and Douglas Lake. The discovery well, which was brought in on November 11, 1923, and the Mitchell well, brought in in July, 1924, are located on the Wellington structure. Both of these wells came in as large gas producers, estimated to flow around 80,000,000 cu. ft. per day, each. The ver Straten and Whittaker wells in the Fort Collins structure appear to be large oil producers.

Drilling is under way near Boulder, Berthoud, Loveland and elsewhere in Northern Colorado. There is also considerable drilling contemplated or underway in the vicinity of Pueblo, and in other localities. What will be the result of the oil and gas excitement now prevalent in the State is anybody's guess as yet. The coming year will no doubt see a considerable number of wells completed, after which we will know more about the future possibilities of natural gas service.

Conservative Action Needed

We all hope that an adequate supply of natural gas will be found to supply gas service to all cities and towns within the State, but we must guard against a stampede which might be caused by the excitement that usually attends a strike of any kind. One gas well does not make an inexhaustible gas supply any more than one swallow makes a summer. Let us approach this problem wisely and conservatively. Let us first be sure of our supply, then let us figure out accurately the best way to handle it.

We have a lot of precedent to guide us in doing the right thing if we will just profit by the mistakes that have been so common in the natural gas industry. No natural resource, in a country noted for its abundant resources and also its wastefulness, has been wasted as has the natural gas supply of the United States. With a supply of gas sufficient to last for centuries, with even a reasonable amount of conservancy, after a relatively few years we are confronted with a shortage practically every place that natural gas is used. The waste has been colossal and the blame rests upon the shoulders of the sellers, not the buyers. It is true, the barns are being locked now and in a few cases the horses are still there. Let us lock ours just as soon as we get them built.

There is no such thing as an inxhaustible natural gas supply. We used to think there was, but "them days are gone forever." No matter how large a supply may be discovered, it will some day fail if we allow it to be wasted. This has been the bitter lesson we have learned from experience. One of the best ways to exhaust a natural gas supply, next to knocking the cap off the well and letting it blow, is to sell it at a rate that does not produce a fair return on the investment. When we do this we sell it at such a low price that the customer can afford to burn it extravagantly and inefficiently. Our first and biggest job as public utility operators, confronted with the probability of selling natural gas, is to educate the public to the knowledge that a B. t. u. that comes out of the ground is just as valuable as one that comes out of a retort house or a water gas generator, and that a dollar invested in natural gas equipment must earn the same rate of return as the dollar invested in a manufactured gas plant.

It is traditional to think of natural gas as cheap gas. This is only natural because it usually has been sold so far below its value that it has been the cheapest thing in the world. That is what has put it in the class of the dodo bird and the western bison. The general opinion of the public is that natural gas should be sold at about half the price of manufactured gas when volume is considered, and one-fourth the price when heating value is considered. We taught them that ourselves, for we actually sold it to them that way and they didn't question our ability to run our business. The only thing that we forgot was to charge interest on the investment. Natural gas doesn't just flow out of the ground to be conveyed in some mysterious and inexpensive manner to the customer's burner; the process of putting it in the burner involves work and expense comparable with that employed in the manufactured gas business.

Expense Items

First, a considerable amount of engineering work is necessary to locate a possible structure. The next step is to obtain leases and drill a well. In Northern Colorado the cost of drilling a well is in the neighborhood of $150,000.00. Perhaps the first well is driven into "pay sand," but sometimes it is a "duster." If a strike is made, the drilling of other wells proceeds. After enough wells are drilled to prove the structure a market must be found for the gas and pipe lines and compressor stations constructed. Drilling must be kept up in order to tap all sands in the structure that may be productive and in order that all gas in the structure may be brought out. Other fields must be found and pipe lines connected into them. The idea that after a well or two are drilled and a pipe line installed the investment is complete, is a fallacy. New capital is constantly required, just as it is in any other kind of an enterprise, and the actual cost of production, as in the manufactured gas industry, is but a small part of the cost of delivering gas to the customer's burner.

The Bureau of Statistics and Information, Division of Public Utilities, Department of Internal Affairs of Pennsylvania, for the year 1923 shows that the investment per natural gas customer is $189.00, as compared with $88.00 for the manufactured gas customer in the

Presented before the Midyear Conference of the Colorado Public Utilities

State. This shows that the investment cost of serving natural gas is an item of major consequence and must be considered in its ultimate requirement, because in order to supply gas at even a constant rate additional investment is required.

Investment Costs

Let us consider the probable investment required to supply natural gas, for instance, from the Fort Collins field to Denver, provided those structures are found to contain an adequate supply to make this practicable. Mr. C. F. Wegeman, chief geologist for the Midwest Refining Company, in a paper read before the American Petroleum Producers' Association last year, estimated that twenty-five wells on the Wellington structure and eighteen wells on the Fort Collins structure would be ultimately required to drain those structures of natural gas. At the unit cost estimated, this would require an expenditure of $6,500,000. The cost of the pipe line and compressor stations would be about $2,000,000.00, to which might be added another $500,000.00 for rights of way. This would make an investment of $9,000,000.00. Amortization must be over a period not longer than the life of the field. No investor would consider a period longer than five years, and the relative size of the Fort Collins field might reduce this period to four, or even three years. Consider the period of amortization four years, then the investors must collect $2,225,000.00 each year just to handle the investment in wells, pipe lines and pumping equipment. On top of this must be collected capital charges on the investment to provide interest and taxes. Taking this at 11%, requires an additional $1,000,000.00, or a total of $3,225,000.00 per year. On top of this we have a gas plant that is in our investment account, for this does not disappear when we cease to use it. Then there is the investment for distributing mains, holders, services and meters, which includes not only the present investment, but an additional investment required to handle the increased amount of gas that would have to be sold. By the time we got through we would probably find that about $5,000,000.00 of yearly revenue would be required to take care of the investment before operating expenses could be considered. If we double our present gas sales the investment charges per M cu. ft. would be 80 cents. If we use the Pennsylvania commission's figure quoted beforehand of $189.00 per customer and apply that to our present number of customers, only, it would give a required investment of over $13,000,000.00 and a check on previous calculations.

The cost of producing the gas and bringing it to the city line, distribution, customers and general expense is next in line for consideration, and let me remind you that the cost of gas production is usually only a little more than one-third the operating expense required to put the gas in the customer's burner. Let it also be remembered that the operating costs within the city are just the same per M cu. ft. of gas sold for natural gas or any other kind of gas.

Study Rate Structures

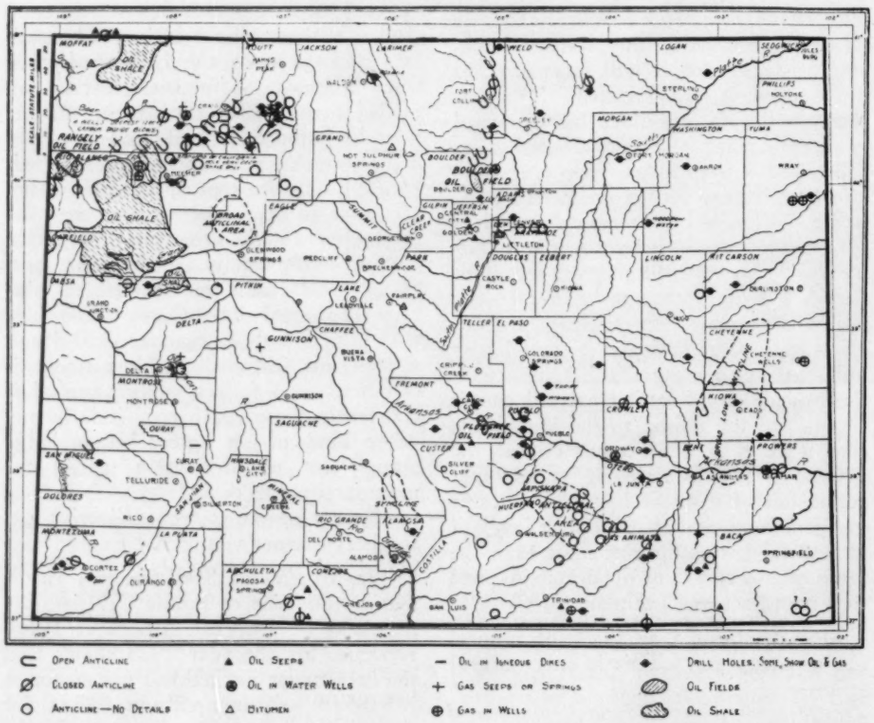
I now come to the main purpose of this paper, which is to impress upon you as utility operators the necessity of studying rate structures, so that we may be sure when we begin distributing natural gas to our customers we will do so on an equitable basis. We want nothing but a fair return on our investment. This we are entitled to and must obtain. We will still be engaged in selling, not a commodity but a service, and one of our big jobs is to educate the public to this fact. It should be immaterial to our customers whether one of the elements of the gas service supplied them is natural gas or manufactured gas, so long as the service they obtain is satisfactory and the price reasonable when compared with competing fuels.

Natural gas is a superior fuel, or, I might say, the superior fuel, and as such should compete only with high grade fuels. I do not think we can ever afford to waste it by offering it as a substitute for cheap lignite, as, for instance, in boiler operation. When we do this we not only cheapen natural gas as a fuel in the minds of the public, and that has been the curse of the natural gas industry from its inception, but we hasten the day when Nature's storehouse will be depleted of its gas supply for domestic and other desirable purposes. If we attempt to compete against our cheap Colorado lignite we must sell gas at a rate so ridiculously low per million B. t. u. that we cannot possibly earn a fair return upon the investment. Our plentiful supply of lignite is a valuable resource to Colorado. Why should we pit one of our resources against another when we can make each serve its particular and useful purpose?

A Lesson from Kansas

Over in Kansas for years they followed the traditional habit of wasting natural gas by selling it at a low, unprofitable rate, regardless of demand or consumption. The result was inevitable, just as it has been everywhere that natural gas is used; there was a lot of gas when the customers needed little of it and little when they needed a lot of it. Finally the situation became so serious that something had to be done. Mr. Henry L. Doherty took the matter in hand and gave it his personal attention for many months. His work is a matter of record in the archives of the State of Kansas. He was able to convince the Public Service Commission that the use of a proper rate, causing each customer to pay his fair and just proportion of the expenses of the service rendered him, was the solution of the problem, and this commission made the three-part rate

Colorado Oil. Gas and Shale Lands



compulsory wherever natural gas was sold within the State. The use of demand limiting meters was a part of the necessary machinery used in the application of the rate. The result—today Kansas gas customers pay no more than a fair price for the service rendered them. The service is excellent, gas shortages are a thing of the past, and wastefulness has ceased. The public knows the value of the product they are using and are perfectly satisfied. This plan should be followed wherever natural gas is used and we, particularly, who are just facing a new venture should profit from this lesson that was taught and learned over in Kansas.

Out in California they are practicing conservation of natural gas in another way. They have never allowed natural gas to be cheapened or wasted since its discovery. There they reform it by cracking it in their oil gas generators, which increases the volume and lowers the heating value to about the same value as oil gas. They then distribute all of the reformed gas that is available and use oil gas to make up the balance of the demand. They have a good load factor on their natural gas lines and are conserving their resources. They are charging a rate comparable with that charged for manufactured gas and which returns them a fair profit, and no more, on their investment. There, too, the public is satisfied. The service is good and rates reasonable. You never hear them talk about natural gas, because natural gas is rarely used in its raw state. It is considered there as a gas making material.

Expense of Change-over

One of the advantages of the California system of reforming is that no trouble was experienced when natural gas was first used in burner adjustment, and no trouble will ever be experienced from this source if they cease its use. That is one of the big problems we are confronted with when we change from manufactured to natural gas, and vice versa. We must change all of our utilization equipment to meet the new condition if we consume natural gas in its raw state, and change it back again if the supply fails. This is an expense that will undoubtedly be borne by the utility. Natural gas is the ideal enricher, and some of our most progressive gas men today are advocating its use only as such. This is something well worth thinking about.

The smaller cities and towns are in all probability closer to a natural gas supply than is Denver. There is a prospect that even if a supply is proven inadequate for Denver that it will still be ample for many years for the use of the smaller communities. Those places lo-

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The Training Squad *as a* School *in* Company Operation

By Thos. N. St. Hill
Pacific Gasoline Company

THE Pacific Gasoline Company Training Squad was organized nearly two years ago for the purpose of giving a certain number of qualified employees a period of experience in each of the various lines of activity of our business. The object of this plan was twofold, namely, the development of an experienced personnel that would help the Company derive from its physical equipment the greatest possible results with the minimum expenditure, and to develop business management to the point where each individual would perform most efficiently the service for which he was best suited.

Thos. N. St. Hill

With this idea in mind the management selected from the Company's employees certain men who had the required fundamental knowledge along technical lines, and assigned them to the Squad, with the understanding that they would be paid a monthly salary somewhat less than the average it was expected they would earn over a period of two yers. If they completed the course satisfactorily they were to receive a bonus of $25 for each month on the Squad, or $600 for the two-year course.

Work Diversified

During this period they were to be employed in as many as possible of the various occupations, such as roustabout, oiler, engineer, foreman, draftsman, surveyor, tester, chemist, warehouseman, shop helper, and so on. Anyone thought to be unqualified for this work would be transferred off the Squad, and those who completed it would be advanced to whatever position their ability and experience justified.

It was distinctly understood that the organization of the Training Squad did not mean any less an opportunity for the advancement of employees not on the Squad. It was hoped, however, that it would be a means of raising the standard of ability of all employees in the organization. It is as yet, perhaps, a bit early to pass judgment on this method as a means of training personnel, but the plan has been in operation long enough for certain conclusions to be drawn as to whether or not the results hoped for by the management will be realized.

One thing is certain, and that is that every man fortunate enough to undergo this training has gained something that he could gain in no other way in a similar length of time, namely, a perspective of the work of the Company's various departments, so necessary to a thorough understanding of the business.

Details of Work

It is possible that a more comprehensive view of the work of the Training Squad might help to give a better understanding of the relationship it bears to that of other departments. With this idea in mind it might be interesting to follow a member of the Squad through his two-year course.

At the time of being assigned to the Squad the writer was on duty as an en-

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A View of the Pacific Gasoline Company's Santa Fe Campsite

PACIFIC COAST GAS ASSOCIATION

A Page Conducted by Clifford Johnstone, Executive Secretary

Public Relations—Why? Here *Is* Partial Answer

ASSOCIATION committees are rapidly being formed for a big year's work, and while it is too early to say a great deal about the program, it is evident that much stress is to be laid upon the development of adequate publicity methods.

This problem is very much in the limelight nowadays. Whether it is named publicity or public relations, public information or advertising, good-will development or education, the essential thought is to tell friend public the truth as we see it. The need for this message arises in the fact that, under regulation and customer ownership, the public service company has become more of an institution than a business. The metamorphosis has been so easy and so natural that only the very observing have come to a realization that a new economic structure has been borne—a structure publicly owned, but not politically controlled—a structure having all the inherent stability and efficiency of a private enterprise and in addition having that wide appeal to idealism which finds its expression in socialism. The public utility is an Institution, not a business, and it is an institution so nearly approaching economic perfection that the American people are going to be proud that they are its creators—when we tell them about it.

No Place for Secretiveness

Unfortunately there are a few utility officials who do not perceive that they have lived over into a new era. Instead of realizing that they are public officials, they think and act as corporation officials. The danger in this lies in a tendency toward secretiveness in the private affairs of the corporation. This would be proper if the utility were still a business, but as an institution it can have no private affairs. Secretiveness leads to suspicion and suspicion leads to opposition. A little heavy silence placed here and there on her wings will keep Truth crushed to earth for a long, long time.

Before we can get very far with our message to the American people we must ourselves have a more nearly unanimous understanding of our true relationship to the public. Its associations can be helpful to the gas industry here. A big feature of the convention of the American Gas Association is to be a review of the work of the State Public Utility Information Committees. The recent convention of the N. E. L. A. gave a great deal of prominence to publicity and public relations topics. For our own association President Schafer, in his inspiring article in the September issue of *Western Gas,* has stated it as the key idea of his administration. The Pacific Coast gas industry has been in the front rank in many other movements. Let us now do our share to lift the silence from the wings of Truth.

New Members of Association Enrolled Since Convention

CLASS B. MANUFACTURERS:

Sprague Meter Company, Bridgeport, Conn.; represented by Mr. W. P. Hutchinson, Vice-President and Sales Manager.

Steere Engineering Company, General Motors Bldg., Detroit, Mich.; represented by Mr. F. W. Steere, President.

CLASS C. INDIVIDUALS:

Ludwig Rosenstein, Consulting Chemical Engineer, 112 Market St., San Francisco, Calif.

W. D. Wilcox, President and General Manager, East Idaho Gas Co., Idaho Falls, Idaho.

Edward Haver, Coast Valleys Gas & Electric Company, Salinas, Calif.

E. K. Gwynn, Foreman, Coast Valleys Gas & Electric Company, Salinas, Calif.

Donald E. Buyers, Efficiency Engineer, Portland Gas & Coke Company, Gasco Bldg., Portland, Ore.

Lawrence E. Lundquist, Salesman, Northwest Gas & Elect. Equipment Co., 372 Pittock Block, Portland, Ore.

F. E. Stevens, President, Lattimer-Stevens Company, Columbus, Ohio.

Charles A. Emery, Local Manager, Mountain States Power Company, Olympia, Wash.

S. F. Fox, Sales Manager, Roy Engineering Company, 712 E. Fourth St., Reno, Nev.

Lyle Caldwell, Technical Dept., Celite Products Company, 1135 Van Nuys Bldg., Los Angeles, Calif.

Glenn L. Ritter, Research Chemist, Standard Oil Company, 2724 Channing Way, Berkeley, Calif.

A. F. Erickson, President, Arthur F. Erickson Company, 318 Selling Bldg., Portland, Ore.

Vernon R. Sullivan, Chemical Engineer, Stockton Firebrick Company, P. O. Box 314, Stockton, Calif.

Plans Now Developing *for* San Francisco Meeting

IT HAS now been tentatively arranged that the San Francisco meeting of the Association will take place on November 19 and 20.

The 19th will be devoted to committee meetings, and all section, bureau and committee chairmen should endeavor to be present, as well as committeemen residing in or near the Bay district. These committee meetings will be among the most important of the year, as they will afford an opportunity for consolidating the plans now contemplated by each committee. This should result in a much more definite program of committee work than the Association has ever been able to accomplish.

November 20th will be devoted to a business session both morning and afternoon, and the section chairmen are already lining up an interesting program which will approach closely to convention caliber. The sessions will be held in the auditorium of the Pacific Gas and Electric Company, 245 Market Street.

On the evening of November 20 the Annual Get-Together Dinner will be held at the Commercial Club and a program is promised by Frank Talcott, who is in charge of the dinner, which will tickle the risibility and stir up the enthusiasm of the most hardened banqueter.

Is the Association Useful *to* Appliance Dealers?

IN RESPONSE to a request that Association dues be paid, a retail dealer in gas appliances has written to the Association in this wise:

> "We do not see our way clear to do so. It is, in our present estimation, of doubtful value to us. Your endeavors appear to us to be chiefly in the interest of gas companies, and as long as they sell stoves they are more or less antagonistic to retail hardware and furniture dealers."

The fact that the Association is of doubtful value to this man is his personal problem. To a man whose principal interest is the sale of furniture or hardware, with gas appliances as a side line, vicariously handled, it is a question if

the Association can be useful. He has no time to absorb the breadth of view and the knowledge of his goods and its use, that the Association can give him. He and his gas appliance salesmen should, however, belong to his local gas appliance group, and he was so informed.

The reason for publishing his letter is to point out to those similarly placed, that he is very much mistaken in his attitude toward his gas company. The gas company in his town is selling gas appliances, but it is selling a high grade line at a price with which he can compete. The gas company officials are interested in selling as much gas as they possibly can and it would be absurd to think that they could have any desire to restrict his sale of gas appliances. If he is selling a good appliance they want him to sell all he can and they are willing to help him.

That our correspondent could be so mistaken is the fault of the gas company as well as his own. It may be that a company salesman has made a practice of unjustly knocking the dealer's line or that service men sometimes cover a lack of knowledge by the general statement, "Your stove is no good; you should have

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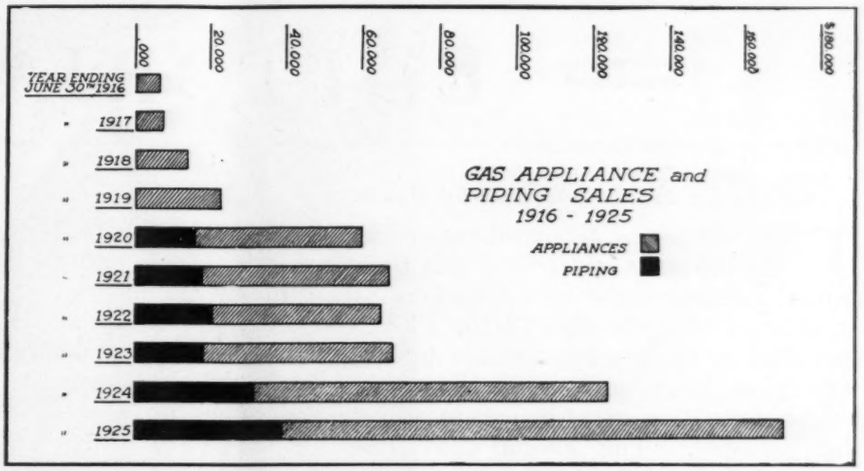
A. E. Peat, Chairman

Before the close of the Convention at Portland, President Sshafer appointed Mr. W. E. Houghton, Comptroller of the Los Angeles Gas and Electric Corporation, to the position of Chairman of the Accounting Section. Mr. Houghton feels that the burden imposed upon him by his regular duties will not permit him to do justice to this important work. President Schafer, therefore, has secured the services of Mr. A. E. Peat, Treasurer and Comptroller of the Southern California Gas Company and of the Midway Gas Company. Mr. Peat has been a member of the Association since 1918 and has always been active in the committee affairs of the Association.

One of the most interesting things learned in Portland was that the New electrical home being built for Miss Julia Groo, the winner of the N. E. L. A. essay contest, has in its basement a modern gas furnace. Safety First—it gets cold in Portland.

Through the courtesy of *Western Gas*, all members of the Association will receive the publication regularly until such time as the office of *Western Gas* is notified by the Secretary that dues are delinquent.

This is just one more service being performed by the publishers of *Western Gas*, and all members of the Association are requested to do their part by paying their dues promptly.



Gas Appliance Sales Show Large Increase *in* Vancover, B. C.

By J. Keillor
British Columbia Electric Railway Company, Ltd., Vancouver, B. C.

ELEVEN years ago it would have been difficult to visualize the enormous increase in the sale of gas appliances that the Company has made in this comparatively short space of time. A glance at the sales chart shows us that we are doing today about seventeen times the amount of business that we did in 1916, a record of which we feel we can be justly proud.

In 1916 sales were confined almost entirely to domestic appliances, the industrial and heating business being at that time practically nil.

With the introduction of our special heating and commercial rates a very large field was opened up which has undoubtedly been the means of increasing appliance sales; two orders recently taken for heating installations amounted in volume to our entire year's business 10 years ago.

Record System

As a foundation from which to work, we have a comprehensive survey of all gas appliances used by our customers; the details being kept by a practical but not complicated card index system. Every house, commercial building, apartment block, etc., has a card filed away with a complete record of the appliance in use, size of service, meter and any other remarks that may be considered of value, making it possible by a glance at the card covering a specific address to know exactly what the occupants are using. In this way it is an easy matter to find out the prospects for any appliances not appearing on the record, forming helpful leads for the salesmen. This system is kept up-to-date from meter installations and "change of tenant" applications which pass through the office. When this system was first inaugurated, it meant a careful canvas of the entire gas mains and, although it took two years to complete, has proved of inestimable value and has paid for itself many times over.

In putting on any special campaign as, for instance, water heaters, we pick out the cards which tell us that the consumer is lacking in this appliance and he is bombarded with advertising matter which is followed up by a personal call from the salesman, the result being that no time is wasted calling on prospects already supplied with the particular article we might be specializing.

District Representatives

Each salesman has his own territory for which he is held entirely responsible, and most of the salesmen, except in the new districts, having worked their ground for a number of years, have become well known to their neighborhood, which forms a link of good relationship and helps foster that desirable asset, "good will," between the Company and the general public.

A salesman having concentrated on one particular district becomes familiar with the layout and size of gas mains, where to look for services, inside piping on different buildings, where various appliances are operating, and a hundred and one other local details, a knowledge

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EDITORIAL

The National Convention

THE interest of all members of the Western gas industry is directed this month to the annual meeting of the American Gas Association at Atlantic City, October 12-16. The convention promises to be largely attended by the gas fraternity at large, and its deliberations cannot help but result in great benefit to all branches of the industry. The annual convention is the highlight of any association's program; the present gathering of the A. G. A. at Atlantic City will place a period to the seventh year of the Association's existence.

The Rush Heating Season

WESTERN GAS is no weather prophet, but if we accept the judgment of some authorities we are facing a long, cold winter. Weather is the determining factor in much gas appliance turnover, and retailers are already feeling the first returns of fall in the beginning of the heater business.

Results of the fall season make all the difference between a good year and a bad year to the merchandiser of heating equipment. Much thought and planning must precede the first cold snap, if the retailer is to get his full share of the flood demand for heating appliances which invariably follows close upon the heels of departing summer.

In the face of this approaching season it is pertinent to ask how many retailers have actually anticipated the rush which they knew was due. How many have laid adequate sales plans? How many have tied in their local advertising with advertising of heating equipment that has been running in national magazines for the past few weeks? How many have informed their sales forces to a point where they can *sell* gas heating appliances, and not merely take orders? How many can discharge their responsibility to the public by making absolutely safe installations, that will stand the hard test of use? How many guessed reasonably close to actual demand in making advance orders?

Much last minute effort can still be made in preparation for capitalizing the cold weather. And the present season's course of business should be followed with an analytical eye, that experience may guide us in other heating seasons.

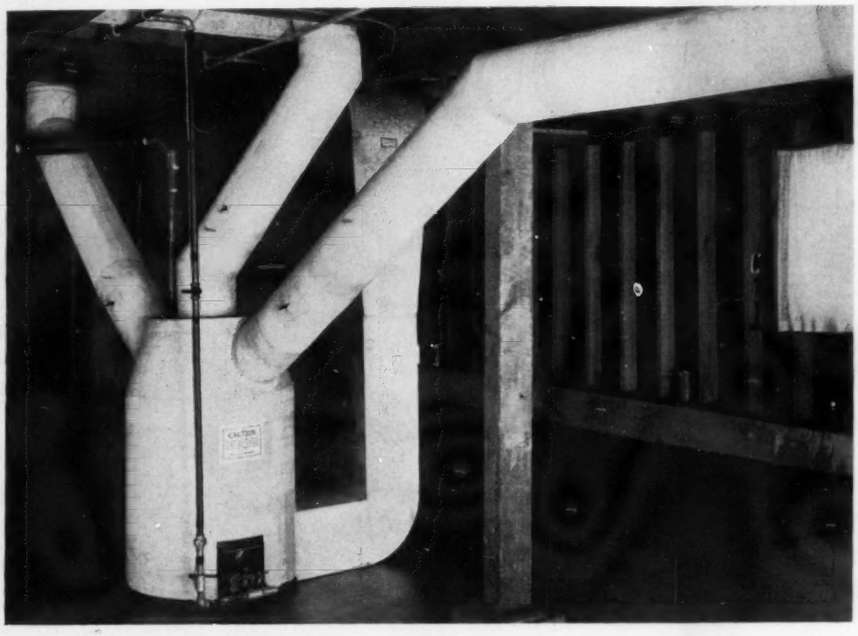
Consideration for Employees

THE human factor is playing an increasingly important part in all phases of industry. The conduct of business itself is becoming more humanized, but more than this, it has been found that personnel work pays. A contented employee is an efficient employee, and may be depended upon to reflect credit upon the utility in his treatment of the public. A disinterested worker is a complete liability. So any move to engender employee interest and loyalty, to improve working conditions, is sound business policy.

Western Gas this month contains two editorial features which savor strongly of this growing consideration for employee welfare. An article by D. L. Scott, manager public relations for the Los Angeles Gas and Electric Corporation, gives two instances which are decidedly in point: the course of study recently conducted among employees by department heads, and the formation of an organization among the employees to encourage their participation in Pacific Coast Gas Association activity. The course of study has already proved its value in the splendid records made by the 110 employees who participated, and in the development of interest in company operation. The furthering of Associational interests among employees, it is evident, can do much to broaden horizons and give workers the concept of being engaged in an industry as well as a job. The western gas industry will benefit, as well as the individual company which fathers this sort of a movement.

The second case in point is that of the Pacific Gasoline Company's training squad plan, which is calculated to give those who are affected by it a broad knowledge of the workings of the company organization and operating practice. The means adopted to accomplish this desired result are well described by the author of the article, who is the first graduate of the training squad. In his estimation the plan is enabling workers to "find" themselves and to develop along the vocational line to which they are best suited. Through actual experience in a number of phases of company operation they, also, are enabled to think in terms of their industry instead of their particular job.

This is good business; it means interested and efficient employees and future executives; it also indicates a broad and farsighted recognition of the human factor in industry on the part of the companies concerned.



Typical Installation of Babcock Furnace, Showing Cold Air, Draft Regulator, and Air-Cell Insulation. Such Installations Make Friends of Gas Users.

Proper Installation *Is* Imperative *in* Sale *of* Heating Equipment

By C. B. Babcock
President, C. B. Babcock Company, San Francisco

MANY years of experience in the gas industry have taught me that it is utterly useless for a manufacturer of gas heating equipment to put unlimited time, money and effort into the production of a heating system, unless its successful performance in actual use can be assured by proper installation. I have seen gas furnace installations which were so poor as to make it an absolute impossibility for the furnaces, which were good heating systems, to give satisfactory service; and I have seen gas furnaces of less efficient construction that were giving satisfactory service because the installations were almost 100 per cent perfect. The proper installation of gas heating equipment is vital to the success of gas as a fuel for household heating. Manufacturers, dealers and gas companies cannot put too much stress on the importance of rigid and expert supervision of all installation work. This must be done if the public is to be successfully "sold" on gas heating systems.

Arouse Distrust of Gas

The newspapers of the country have carried innumerable stories of deaths caused by gas, which have had the inevitable effect of creating distrust in the public mind for all gas burning equipment. While it is true that the great majority of all such deaths were caused, not by poor equipment, but by poor installation, it is also true that this fact is almost entirely overlooked by the public in placing the blame for these frightful occurrances. The expenditure of millions of dollars in advertising could hardly counteract the adverse sentiment which these deplorable happenings create. In view of these facts, the gas industry cannot afford to tolerate slipshod methods of installing gas equipment, any more than it can afford to sell or manufacture gas equipment of poor quality. The duty devolves upon all the component elements of the gas industry to see to it that such things do not continue.

Paying the Penalty

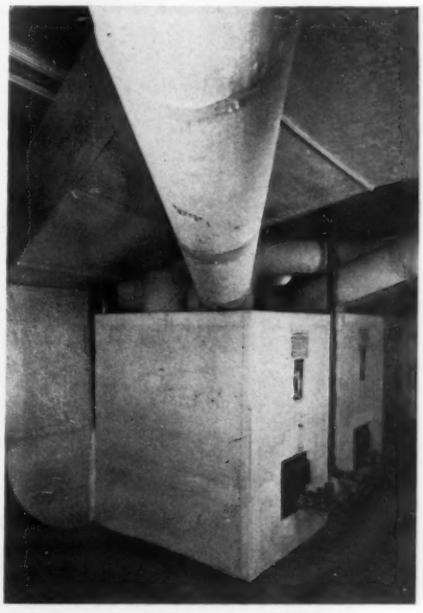
The penalty which the gas industry must pay for its failure to properly supervise the installation as well as the manufacture of gas equipment has already been demonstrated. Legislation—strict, explicit, stringent, but nevertheless justified by continued carelessness on the part of those whose business it is to prevent such things—has been put through in some cities, and will undoubtedly be enacted in many others, unless we ourselves make such action unnecessary. The extent to which the gas industry will suffer if the people are forced to enact legislation to prevent further deaths from gas equipment is so great that it can hardly be calculated. Yet this danger is imminent. In Portland, Oregon, such legislation has already been drawn up; in Los Angeles it has been proposed; and in other important cities on the Pacific coast there is the same threat, which can fall with swift judgment at almost any time.

These facts make it clear that it is the duty as well as the self-inflicted obligation of the industry to correct the deficiencies in the installation of its products that have impeded progress. It is now only a question of method. This has been realized by members of the industry for a long time, and suggested modes of procedure have been plentiful, and have occasioned many discussions. As far as I know, however, no section of the Pacific coast has yet acted on any of these suggestions.

Company Supervision Suggested

Right now a plan which has been discussed perhaps more than any other yet advanced is that of supervision of all installations by the gas company in whose territory the installations are

(Continued on Page 33)



This Two-Unit Installation Replaced a Coal Furnace

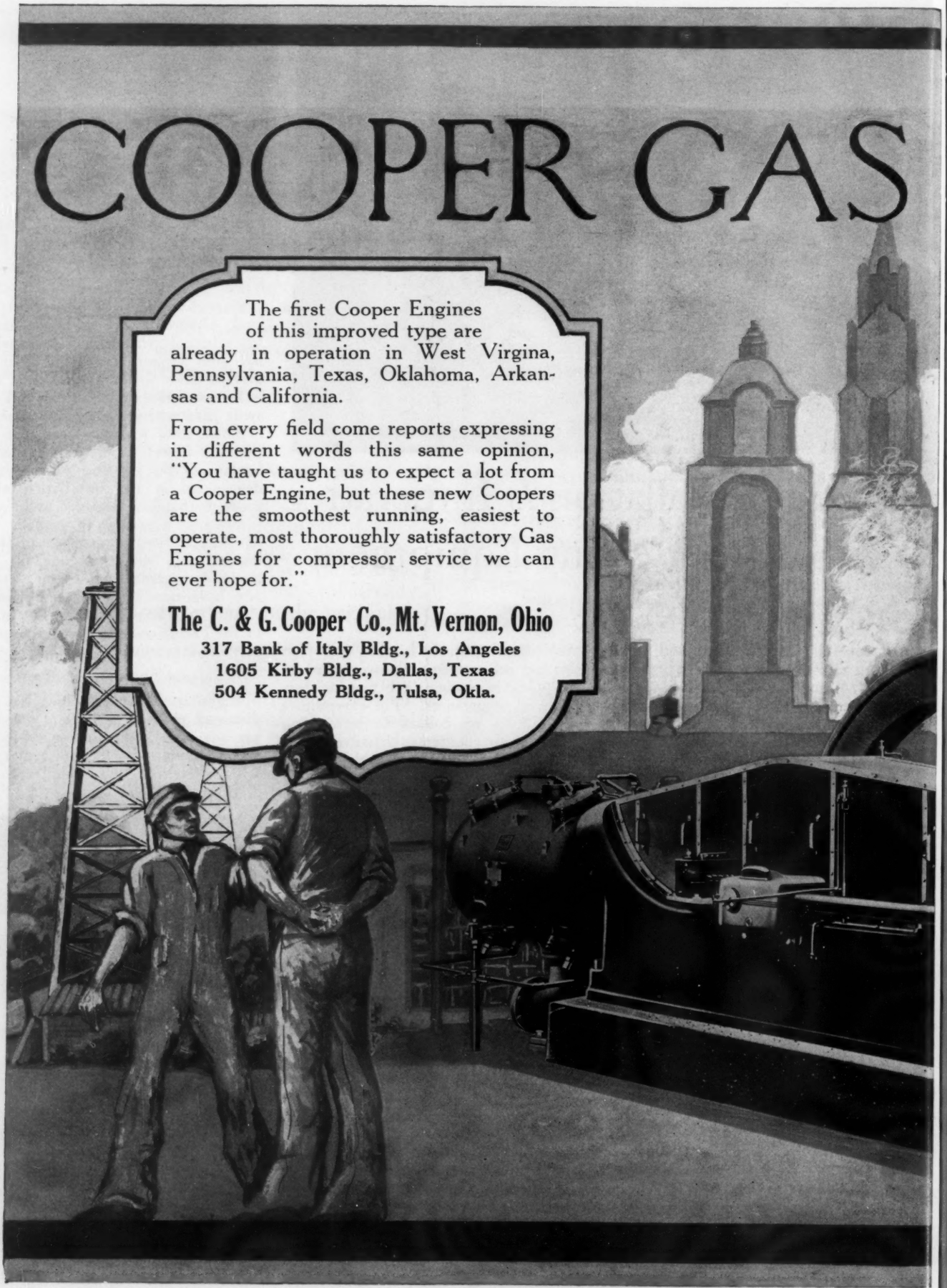
COOPER GAS

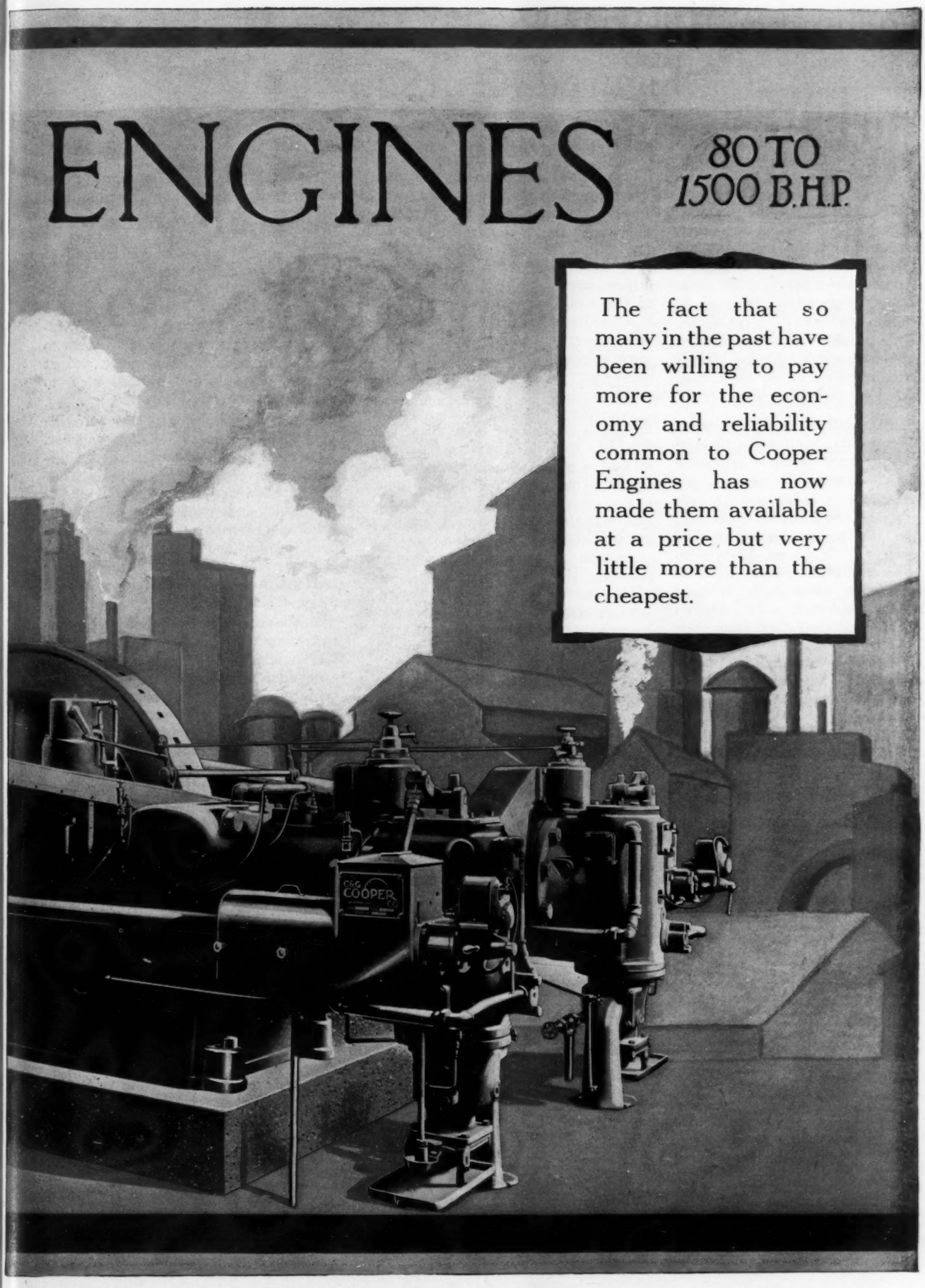
The first Cooper Engines of this improved type are already in operation in West Virgina, Pennsylvania, Texas, Oklahoma, Arkansas and California.

From every field come reports expressing in different words this same opinion, "You have taught us to expect a lot from a Cooper Engine, but these new Coopers are the smoothest running, easiest to operate, most thoroughly satisfactory Gas Engines for compressor service we can ever hope for."

The C. & G. Cooper Co., Mt. Vernon, Ohio

317 Bank of Italy Bldg., Los Angeles
1605 Kirby Bldg., Dallas, Texas
504 Kennedy Bldg., Tulsa, Okla.




ENGINES
80 TO
1500 B.H.P.
The fact that so many in the past have been willing to pay more for the economy and reliability common to Cooper Engines has now made them available at a price but very little more than the cheapest.
C&G COOPER

Turnover, What It Really Is *and* How It Is Figured Correctly

By Louis L. Janes
Janes-Frase Company, Public Auditors, San Francisco

WHAT is meant by turnover in a business? Many definitions have been given, but inasmuch as they differ materially from each other, the accountant and the merchant are liable to confusion in the determination as to the true definition.

This article is intended to present the various facts relative to turnover, to the end that the merchant may be advised of these differences and choose for himself that which appeals most to his reason.

A Dictionary Definition

Turnover is defined in the dictionary as: "A completed commercial transaction" or "the money receipts of a business for a given period."

Neither of these definitions are very satisfactory, nor do either of them seem to fit the usually conceived notion of what turnover really means. Many merchants, in speaking of turnover, refer to their gross sales, when really, if questioned, they would be found to refer to their stock of goods rather than their sales.

Many British accountants define turnover as: The number of times that the inventory is contained in the sales of a given period.

Our American accountants, who have earned national reputations, differ from their English contemporaries to this extent: they declare that the turnover is "the number of times a normal inventory is contained in the cost of the goods sold."

Again we have, on the authority of so eminent an accountant as Robert H. Montgomery, C. P. A., professor of accounting in Columbia University, the following definition: "The turnover of a merchant or manufacturer represents the number of times his capital, in the form of stock in trade, is reinvested in stock in trade during a given period."

In using the word "capital" Mr. Montgomery did not mean that the *entire capital* was invested in "stock in trade"; on the contrary, his meaning was meant to convey this, that it was that proportion of his capital *which* he invested in "stock in trade."

This definition, as explained, is exactly the correct one, in the opinion of the writer. It is very evident that the English method of dividing the sales by the inventory would not give us the correct turnover for the reason that *sales* carry profit in their gross amount, while the inventory is figured at cost prices. The English method of handling would only have a value relatively; that is, for comparison by years. It would not be, at any time, the correct turnover. However, figures obtained by using the *normal inventory* at cost prices and the *cost* of the goods sold, would ascertain the exact number of times the goods were turned over or the number of times the same capital, invested in goods, was used over and over during a given period.

A simple method of finding how many times the goods have been turned over would be to divide the cost of the goods sold in a given period by the *opening inventory* of that period. This, of course, would contemplate that the inventory at the beginning of the period would remain fairly constant and normal both as to quantity and cost prices during the period.

If, however, there was a fluctuation of any size in quantities and prices, it would be necessary to take stock at the end of each month, at cost prices, and then average the stock for the period with inventories, so taken for the period, and with this *average or normal inventory* divide the cost of goods sold in the period to determine with greater exactness how often the turnover has occurred.

Unless there be uniformity in accounting terminology it is well-nigh impossible to make comparisons with any idea of exactness.

In using the word *cost* as applied to either inventory or cost of goods sold, it should be used and computations determined in the actual money paid for the goods and not at market values that obtain at the end of the year or period under consideration, for otherwise truthful results will not be obtained.

To illustrate the method of obtaining turnover let us take an example: If the *inventory,* at cost, in the *beginning* of the period was.....$ 25,000
And the purchases for the period were..... 400,000

A total of..... 425,000
Deduct *inventory* at cost *at end* of period..... 50,000

Would leave *cost of goods sold* $375,000

Dividing this figure by opening inventory of $25,000 we would have turned over the capital invested in goods to be sold, fifteen times.

The foregoing is a simple method of computation and is correct enough if the inventory be normal, but if inventory value varies much or in case of a continuous increase or decrease in volume of business, then it were well to have inventories taken monthly and at the end of the period average them to obtain the correct divisor.

Some authorities suggest "working capital" as the proper basis for turnover. By working capital they mean the difference between current assets (consisting of cash, accounts receivable, notes receivable, and inventory) and current liabilities (consisting of accounts payable, salaries and wages payable, etc.) It is claimed that this is a much more stable figure and therefore presents a more stable basis of comparison.

For example: If the difference between current assets and current liabilities is $50,000, and the cost of the goods sold is $250,000, the working capital is turned over five times. The difficulties in this method are, that if a large part of the working capital is used for advertising purposes it cannot be used to purchase goods to be sold, also if a large amount is locked up in accounts receivable the same thing will be true. Either of these would result in a lessened turnover of working capital.

In some retail businesses it is found advisable to use the figures at selling prices for the sales instead of the cost of sales. It may be that it is difficult to obtain costs. In such a case, to get correct results the inventory also should be figured at selling prices with the same rules as to normal or fluctuating inventories as in the cases where cost prices are used.

Some General Rules

The following general rules are worthy of notice. In *manufacturing industries* turnover of a raw material is found by dividing average inventory into goods going into process during the year or period. Turnover of goods in process, divide total amount credited to goods in process by average inventory of goods in process. Turnover of finished goods by dividing cost of sales by average inventory of finished goods.

Reprinted from The Furniture Reporter for July, 1925

Departmentized organizations should figure turnover for each department, and the importance of this is apparent, for by this method it can be determined very exactly whether departments are active, passive or non-producing.

To obtain a *general or average turnover* for a manufacturing industry, divide the cost of sales by the average of total inventories of raw material, goods in process and finished goods.

The turnover for *store and office supplies* can be found in exactly a like manner as those for goods sold, only in this case the average inventory is divided into the cost of supply expenses for the year.

Benefits of Rapid Turnover

J. H. Bliss, an accountant of big reputation in the East, says, "The more detailed the computation of turnovers, the more effectively are sore places which tie up capital pointed out." Mr. Bliss also adds, "Rapidity of turnover has a definite bearing on the margin of sales which must be earned to cover costs of doing business and yield adequate return on capital. Few organizations appreciate the cost to carry stocks and fail to figure the advantage of a more rapid turnover or the disadvantages of a slow one. . . . Advantages of a rapid turnover are illustrated as follows:

A concern carries an inventory of $100,000
It has a net worth of 150,000
Its average turnover is..three times a year
If its average turnover should be....four times a year on the same volume, the amount of invested capital would be cut one-fourth, or $25,000. Saving in interest on $25,000 is 8 per cent, which is 1.33 per cent on stockholders' investments as added net profits. There are also certain additional advantages, such as smaller liabilities, less spoilage, and obsolescence, less insurance, space, rentals, taxes, etc."

From gathered statistics in 1920 and 1921 expressed in yearly sales per $1.00 of inventory, we have:

Average turnover of inventories of representative corporations in various industries.

For	95 Cos. 1916-21	57 Cos. 1914-21
1914		$4.43
1015		4.64
1916	$4.78	5.08
1917	4.47	4.73
1918	4.47	4.74
1919	4.09	4.25
1920	3.77	3.96
1921	3.52	3.59
Average for full period	$4.21	$4.42

The Gas Industry's Testing Laboratory

(*Continued from Page* 10)

Babcock Co., San Francisco; T. M. Foulk, Public Service Co. of Colorado, Denver, Colo.; and C. R. Miller, Superintendent of Utilization, Portland Gas and Coke Co. As in the case of the main committee these sub-committees represent the gas companies and manufacturers equally, and in some instances include representatives of our governmental bureaus. Certainly their findings should be representative of the best thought of our industry and national in their scope.

Before preliminary construction and performance specifications for appliances can be approved, they must first be passed by the general specifications committee and placed in printed forms after which they are sent to all gas companies and manufacturers who are members of the American Gas Association. To each specification is attached a blank requesting criticisms and suggestions. Such criticisms are accepted for a period of three months after date of distribution. Upon receipt of these suggestions they are referred back to the respective subcommittees, who after considering them will again report back to the general specifications committee before final action. Once passed, these specifications will remain tentative until the manufacturers have had an opportunity to accommodate themselves to the new requirements. The tentative period, however, will in no case exceed one year. This method of procedure was unanimously approved by our executive board at Atlantic City during the annual spring conference of the American Gas Association on April 26th.

Financing of Laboratory

The laboratory is being financed by gas company members of our Association. Provisions have been made for their support to extend over a period of two years, after which it is assumed that the laboratory will be largely, if not entirely, self-supporting. Not to be outdone by the gas companies, many of our manufacturer members have donated large quantities of equipment the value of which in some instances will exceed $1,000.00. With such cooperation as this existing throughout our industry, it is only reasonable to conclude that our laboratory venture is sure to succeed.

Having completed its tubing tests, the laboratory's next concern will be the preparation of national safety standards for gas ranges, space heaters, central house heating appliances and water heaters. Sub-committees are now busily engaged revising such specifications where they exist and preparing new ones where necessary. The first major type of appliance tested will probably be the gas range, as final revision of specifications is nearing completion for this type of equipment. A very definite program has been outlined to follow the completion of our present research work that will keep the laboratory employed for at least several years on routine testing. Therefore we will not be able, for the time being at least, to do any development work. Where a manufacturer's appliance is disapproved, however, he will be informed wherein his product fails to meet our requirements.

Difficulties Faced

Approval of gas appliances for national use presents some rather difficult problems. There are, roughly, 2,000 gas companies in the United States, serving a large number of different qualities of gases at various pressures. The terms natural, mixed, oil, coal, coke oven, and carburetted water gas, are only general and do not indicate the number of different qualities of gases supplied in each group. In fact, it is rather difficult to find two gases each possessing exactly the same constituents. Changes in pressure, specific gravity and heat content, all influence the operation of appliances. To develop a series of tests which will indicate or anticipate the operation of an appliance under all conditions of service, offers a rather difficult and unusual problem.

Our research plans, which have been outlined, should prove of considerable value eventually to appliance manufacturers. I trust that we may count upon our Western friends for the fullest support of our laboratory plans, realizing that this is a matter of common interest and one directly affecting the class of service our industry is to give the public.

NEW PROCESS IN MEXICO FOR GASOLINE EXTRACTION

A process for extracting gasoline from natural gas, which has been in operation in Mexico for the past two years is described by E. F. Tabler of Tampico, Mexico. The gasoline vapors in lean gases are centrifugally concentrated by means of a simple, durable and stationary concentrator. A new type compression plant treats the resulting concentrate, automatically desulphuring and weathering it, and delivering its products to the storage tanks without resorting to batch methods, filters, float traps and other operating features so troublesome to ordinary plant operation. The plant, which is covered by patents issued June 9, 1925, is said to have been in operation for two years without repairs, except to the compressor.

Gas Appliance Sales Show Increase in Vancouver

(Continued from Page 17)

of which is invaluable and evolves an ordinary salesman into an expert.

Recent years have shown a more than satisfactory increase in the sale of gas for industrial purposes. It is probably not generally known that one large bakery uses over 10,000,000 cubic feet of gas annually. We are also bringing the better class restaurants to realize that gas is a preferable fuel, having already installed a number of all-gas kitchens which are not only a credit to us, but are models of cleanliness and convenience to those who are operating them.

Undoubtedly, the primary cause for our rapid sales increase has been the development of the gas heating business. The heating plants we are now selling would have been considered impossible a few years ago, and it is only after a long, hard struggle against prejudice and conservative attitude to old customers that gas is now slowly but surely taking the place of hard fuels. The "Improved Vacuum System" has been responsible for heating many of Vancouver's leading churches, commercial buildings, including motor salesrooms, garages and stores, both efficiently and economically; in a number of cases the cost of operation being less than coal with the added advantages of flexibility, labor saving and cleanliness.

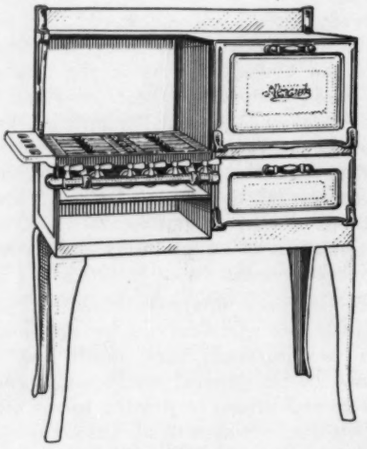
Furnace Business

Hot air, the most popular form of heating for the average size residence, gives us plenty of scope for the gas-fired hot air furnace. In this direction, we have made tremendous strides, the popularity of this type of gas heating growing by leaps and bounds. We have two gas-fired hot air furnaces specially manufactured for us, having determined their efficiency after careful tests. Thermostats for temperature control which form an integral part of a gas heating plant help materially to increase the volume of sales.

It is also worthy of note that last year we sold well over 500 gas fires, and this year expect to nearly double that number.

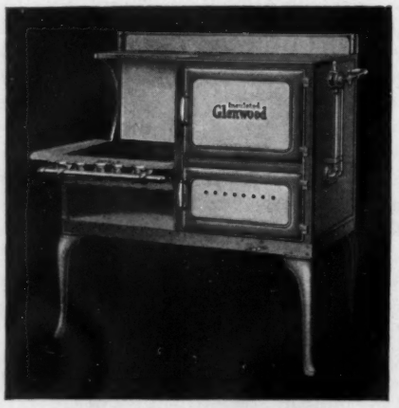
The success or failure of a sale depends entirely upon the selection of the right type of appliance. This is of paramount importance. Fortunately, our trained selling force can boast of long experience, which has been of great consequence in our increased sales. The new business department is to a man a firm believer in the old adage that "a satisfied customer is the best advertisement," and would turn down the sale of an unsuitable appliance rather than have an unsuccessful installation.

:: New Appliance Department ::



Gas Range

Gaffers and Sattler, 4561 East 50th Street, Los Angeles, Calif., have put their Premier Gas Ranges on the market as a new line of manufacture. The ranges are equipped with cast iron, everlasting oven bottom; Armco rust resisting iron is used throughout. The new range, according to the manufacturers, provides an unusually large cooking surface.



Insulated Oven Range

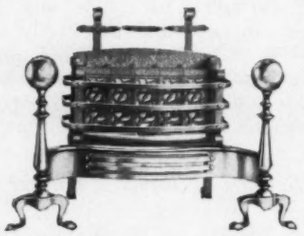
The Glenwood Range Company, Taunton, Mass., has recently introduced the new Glenwood Insulated Oven Range. The oven is insulated with thick walls of mineral wood, on top and sides. The range is also equipped with the Glenwood-Robertshaw Oven Heat Control.

APPLIANCE SOCIETY OFFICERS ANNOUNCED

Louis J. Breuner, manager of the John Breuner Company of Oakland, is president-elect of the Gas Appliance Society of California, as a result of the elections at the recent Society convention at San Francisco. Other officers are: C. B. Babcock, vice-president; F. U. Naylor, secretary. The executive committee is composed of the above named officers and Geo. P. Egleston, past president of the Society; Walter E. Fletcher, and H. M. Crawford.

Fireplace Fitting

The J. H. Grayson Manufacturing Company, Athens, Ohio, has brought out four new period model gas heaters this year. The illustration shows the Ray-Glo "Colonial" period model, No. 510. This model



is made in antique brushed brass finish, statuary bronze, or satin ebony Japan. It may also be had in solid brass or bronze. Dimensions are: Width, 32½ inches; height, 23½ inches; depth, 13 inches. The new heater is equipped with five double channel radiants (10 radiant size).

12,000 GAL. PRODUCTION AT TAFT GASOLINE PLANT

Construction work at the 19-G plant of the Pacific Gasoline Company, at Taft, has been completed and the new plant is now normally making a daily production of about 12,000 gallons. The new equipment consists of four additional compressor units and engines, an additional absorber, and two stripping units; steam heaters, strippers, knockout boxes and oil coolers.

Nineteen-G-Plant, which is testing several new principles of gasoline extraction, is operating with starting efficiency. It is stripping the six million cubic feet of gas that it processes daily to a three one-hundredth of a gallon per thousand cubic feet content of residual gasoline in the plant discharge.

HARRY W. REILLY DIES AT MILWAUKEE

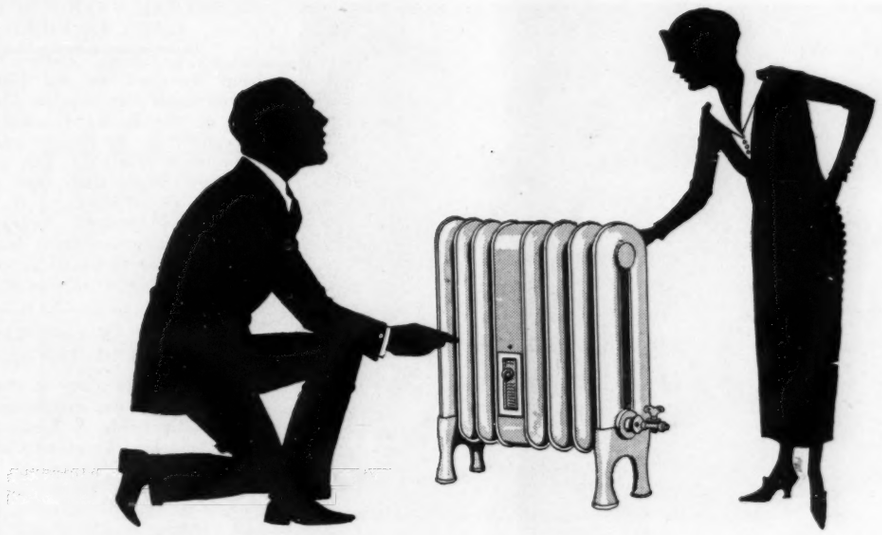
The death of Harry A. Reilly, formerly construction superintendent for the San Diego Consolidated Gas and Electric Company, at Milwaukee, July 23, brings sincere regret to many of his former associates in the San Diego company. Mr. Reilly, at the time of his death, was assistant to the vice-president in charge of operations of the Oklahoma Gas and Electric Company.

D. L. SCOTT NOW HEADS NEW PUBLIC RELATIONS DEPT.

D. L. Scott, formerly advertising manager of the Los Angeles Gas and Electric Corporation, now heads a new department created by the utility, as manager public relations. Mr. Scott has also been named chairman of the publicity section of the Pacific Coast Electrical Association.

UTILITY INVESTMENT TOTALS $136 PER CAPITA

A per capita investment of $136 is the record set up by the gas, telephone, electric light and power, and street transportation companies in the United States, represented in a total investment of $15,000,000,000.00



With Pacific's *Complete* Line

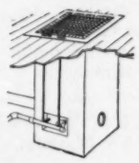
Pressed Metal and Cast Iron Radiators

Pressed Metal Radiators shown above are the least expensive—and often the best—type of gas heating. Pacific radiators—pressed metal and cast iron—are of Toncan rust resisting metal. Exclusive air circulation system reduces gas bills 25%.

Warm Air Furnaces

Concealed below the home, these units are operated by upstairs control. Maintain even temperature automatically. The ideal heating system for Western homes.

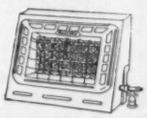
Floor Furnaces



From two to five rooms may be heated with warm fresh air by a Pacific Floor Furnace. Cold air is drawn from the floor, reheated and circulated without loss of oxygen. Economical gas consumption.

Gas-Steam Radiators

Individual steam heat—without a costly central plant. Automatically regulated. The most efficient system for large buildings or installations where even steam heat is required.



Radiant Heaters

Pacific and other makes. Inexpensive installation.

Your Customers Will Never Say:---

"You Haven't What I Want!"

Pacific has the answer to every heating question. With Pacific's complete line, you can satisfy every customer, get in on every job.

There is no duplication. Each appliance covers a distinct need—fully. This means for you a smaller stock, less bookkeeping, less sales effort, greater profit.

Pacific is recognized as the leader of the Southwest in gas heating equipment, having by far the largest number of installations to its credit.

A staff of Pacific Heating Engineers is at your disposal for any special job. There is no charge for this service to Pacific dealers.

Write for agency proposition or Phone BEacon 2190

Pacific Gas Radiator

Gas Heating **Company** *Headquarters*

1740 W. Washington St., BEacon 2190; 616 W. 8th St., MEtropolitan 2398; Factory and Foundry, 7541 Roseberry St., Los Angeles. Branches in All Principal Coast Cities.

A Dealer Ties In With the Recent Canning Campaign

Canning Campaign Stimulates Sales

THE fruit crop in California this year was most bountiful, so much so that early in the season it was apparent that some stimulant was necessary to take care of the marketing situation. A large surplus creates unsatisfactory selling conditions usually resulting in low prices and waste of crops due to inability to harvest with a satisfactory return to the producer. To offset this condition a movement was inaugurated by the Gas Appliance Society of California, cooperating with other enterprises, to stimulate home canning.

A concentrated drive was put forth, with sugar manufacturers, grocers, producers, dealers in household appliances and gas appliances, and the Pacific Gas and Electric Company, joining in an extensive cooperative program. The Pacific Gas and Electric Company devoted all of its gas advertising space for the months of July and August to the drive. Special advertisements were run in all daily papers published throughout the territory served with gas by the Company. More than 5,000 column inches of space were used in 68 newspapers.

Furniture and gas appliance stores in the big cities held home canning demonstrations just prior to the harvest time. Domestic science classes in the schools held special cooking lessons in home canning. Banks devoted their window display space to fruit display. The text of the gas company's advertisements was reproduced in enlarged size on cards and distributed and displayed in stores, banks, etc., as a tie-in with the newspaper advertisements. The metropolitan newspapers publishing a domestic science page devoted a considerable amount of their space to home canning. Literature was distributed through the retail grocers, and the California Development Association contacted with women's clubs throughout the territory.

Gas *to* Feature Industries Exhibit

MANUFACTURERS and sales representatives of California are now turning their attention toward the annual California Industries Exhibit, scheduled to occupy the big Exposition Auditorium at San Francisco from October 17th to November 1st.

As in the past, the entire Larkin street hall of the auditorium building will be turned over to the Gas Appliance Society, where 50 booths, all uniformly decorated, but containing a wide variety of exhibits, will vie with each other for public attention. Over 30 manufacturers and gas appliance distributors have already signified their intention to participate.

Cake Baking Contest ..

A mammoth cake-baking contest will be one of the drawing cards of the hall. The contest is slated for the entire duration of the exhibit, and $2.000 in gas appliances will be awarded to the various successful and near-successful contestants. The cakes will be judged daily, and after they have passed inspection they will be distributed to the city's charitable institutions, donations being made to a different one every few days until the rounds have been made.

The furnace division is planning some extensive educational work on the right and wrong way to install a furnace. This will probably be achieved through the use of printed matter, a special exhibit and short five minute discussions at intervals throughout the display period.

Over 400,000 visitors clicked the turnstiles at the last exhibit of this kind, and as northern California seems to have lost none of its relish for exhibits, pageants and various other fiestas, the committee feels safe in assuming that this year's totals will pass far beyond the the flood mark registered in 1924.

COMPRESSOR PLANT OPERATING FOR MIDWAY GAS COMPANY

The Midway Gas Company's compressor Station at Taft is now in operation and handling approximately 6,000,000 cu. ft. of gas daily. The station, which is a three-unit plant, is located on the north slope of the Buena Vista hills where several new wells have been brought in. The plant handles considerable gas from the new wells of the Pacific Oil Company.

GENERAL PETROLEUM ADDS TO VENTURA FIELD PLANT

Two additional absorbers have recently been installed at the General Petroleum Corporation's absorption plant on the north end of the Barnard lease in the Ventura Avenue field, making a total of five absorbers for this plant. The plant is handling gas from eight wells, and treating approximately 12,000,000 cu. ft. daily, working nearly to capacity. Average gasoline content of the gas treated is nine-tenths of a gallon to the thousand cu. ft. Current production is 10,000 gallons a day.

AMERICAN GASOLINE CO. TO ENTER TEXAS FIELD

Only a small part of the wet gas available for gasoline extraction purposes in the Panhandle fields of Texas is being treated. The American Gasoline Company has under way the construction of three absorption plants in the Carson-Hutchinson field, the plants being built in units, each with a present capacity of 25,000 gal. a day. A 17-mile pipe line is also being laid to connect with loading racks at Panhandle.

The American Gasoline Company is building another 25,000 gal. capacity plant in the Waskom field near the Louisiana-Texas line, and a similar one at Necessity, Texas.

RAW GAS CONTACT PRINCIPLE IN GASOLINE STABILIZER

The natural gasoline stabilizer recently patented by the Phillips Petroleum Company of Bartlesville, Oklahoma, rectifies the natural gasoline by counter-current contact with the incoming raw gas, differing in this respect from the stabilizer of the Carbon and Carbide Chemical Corporation.

DOMINGUEZ COMPRESSOR PLANT FOR UNION OIL CO.

Construction work on an eight unit compressor plant adjacent to the Dominguez absorption plant has been started by the engineering forces for the gas department of the Union Company of California. It was expected that the plant would be in operation by the end of September.

GASOLINE PLANT AT CASPAR WORKS ON LEAN MARGIN

A natural gas gasoline plant built by the Producers and Refiners Corporation west of Caspar, Wyo., is operating on a narrow margin of gasoline content of the gas treated. The gas averages below one-fourth of a gallon to the thousand cu. ft.

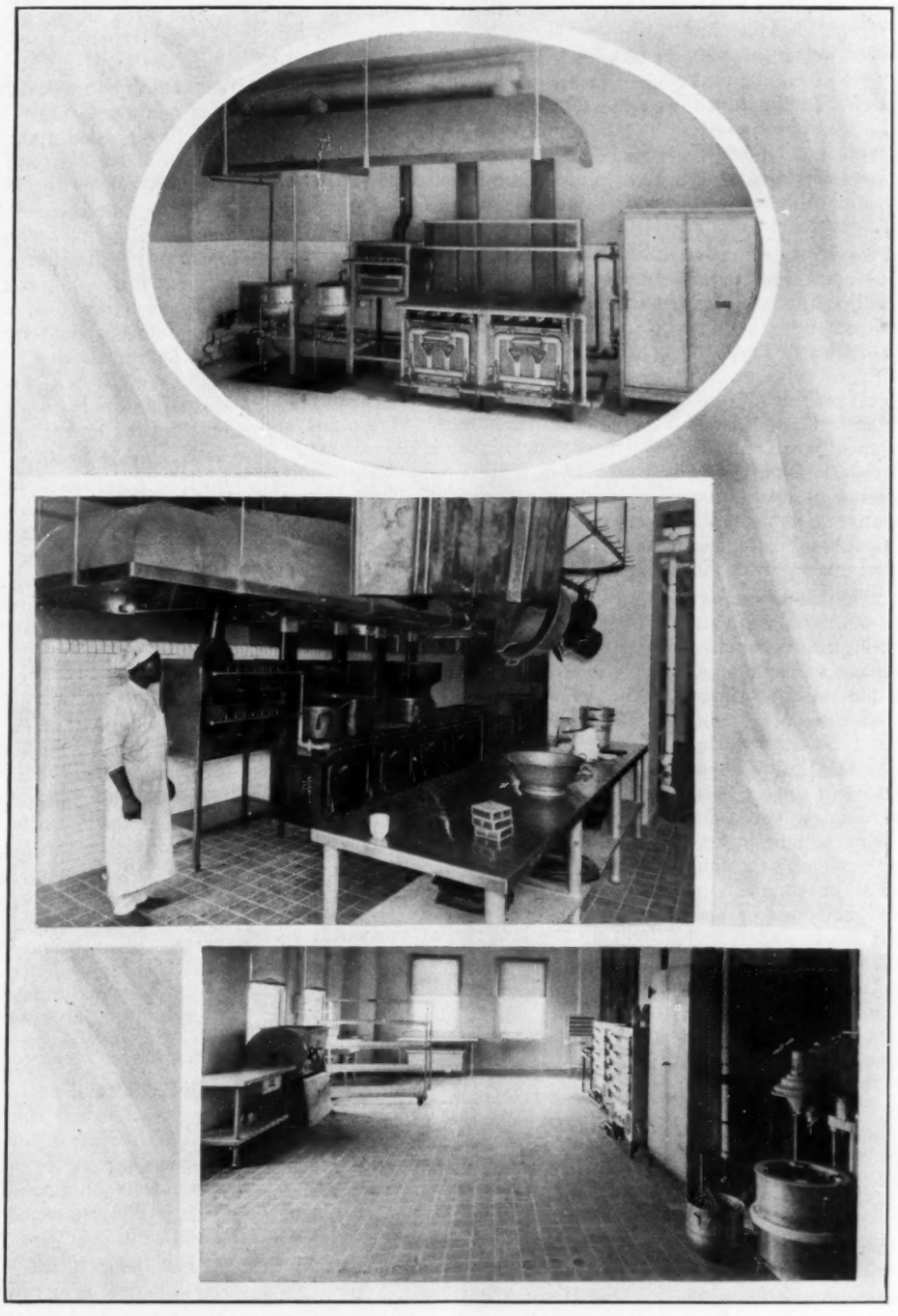
NORTHROP LEAVES SACRAMENTO FOR CHICAGO

A. L. Northrop, manager of the Sacramento Gas Company has resigned from his position with this organization and is now on his way to Chicago, where he plans to enter the banking business. J. W. Helwick, secretary-treasurer of the company during Mr. Northrop's tenure, succeeds him as manager of the Sacremento utility.

40,000,000 CUBIC FEET FLOW FOR PAN AMERICAN WELL

The Mexican subsidiary of the Pan American Petroleum and Transport Company has a well known as Tierra Blanca No. 45, located on the Cerro Viejo border, which is flowing 40,000,000 cu. ft. of gas, with a pressure of more than 1,000 pounds a square inch.

THE T. G. ARROWSMITH CO.



A Sexton installation of complete kitchen equipment in the Church Home and Infirmary, Baltimore, Md.

THE S. B. SEXTON STOVE & MFG. CO.

The T. G. Arrowsmith Co., Pacific Coast Representatives

135 New Montgomery Street **San Francisco**

The Training Squad *as a* School

(*Continued from Page* 15)

gineer and had already had experience as a roustabout and oiler. For this reason it was not necessary for him to go through this phase of the work again. But for the sake of following through the complete course, we will assume that a newly appointed member of the Squad is first assigned to duty as a plant roustabout. As such he may find himself a bit handicapped at first, especially if he has not had much experience in work of this sort. He will have much to learn.

Without previous experience, a man cannot become a good plant roustabout in three months. The best that a Squad member can do is to pick up a knowledge of what it is all about. He will learn much that will be of value to him in his later experience, and in addition will undoubtedly get an intimate knowledge of pick and shovel work, and a smattering of pipe fitting. If he is wide awake he will find plenty to do without being told, tidying up the plant yard, keeping pumps packed, calking leaks, and the like.

He should learn enough about engines to go on tour as an oiler at the end of three months. In the same way that a roustabout's job prepares a man for oiling, so oiling gives him an opportunity to learn the work of the operator or engineer. Although a Squad member cannot learn all he should know about engines and compressors in such a short time, he should have a fairly good idea of their operation after spending three months in the engine room. By the time he is ready to go on as an engineer, he should have a pretty good idea of how a plant operates. He should understand the general layout of a plant, the function of preheaters, expanders, dephlegmators, fractionating columns, and many other things. As an engineer he will have actual experience in producing gasoline, and will probably feel that there is very little more for him to learn, when the time comes for him to be transferred at the end of his three months' period.

Learning Plant Design

Let us assume that our Squad man is next assigned to a job as draftsman in the designing department. This work will be very different from his field experience, and in his new position he will look at the situation from an entirely new angle. In his plant experience all equipment was there, and had only to be operated. Needless to say, someone had figured out the capacity of the pump, the size of the absorbers and pumps required, what size cylinders were needed to handle the gas at the required pressures, and how much horspower was necessary to drive the compressors. But these were matters to which the Squad member had probably given little thought while operating. He knew what valves to turn and what temperature to carry, but the chances are he had given little thought to the whys and wherefores.

To approach the proposition from this new angle is most enlightening. He finds that every piece of plant equipment is designed to meet specific requirements. He learns how to compute heat exchange, absorber capacities, compressor capacities, stresses, horsepower, working pressures, load, and the like. He will be called upon to consider factors that had never entered his head before, all pertinent to plant design and operation. Before he is through he will probably help to lay out plans for a new plant and when construction work is about ready to start he will be transferred to the job as engineering representative to follow the work during the course of construction, noting any change in the original plans, and revising the drawings as necessary. If he has never had any experience on construction he will be at a loss at first as to just how such a job is handled. If left to him he probably would not know where to begin or sow to go about getting started. He soon learns from observation and will find the various units of the plant springing up with the men divided up on separate jobs under their gang pushers. The speed with which the job will be completed will depend largely upon the ability of the foreman and gang pushers to plan their work ahead, so that no one thing will hold up the progress of the work.

Value of Practical Knowledge

He now begins to see ways in which he could have improved his work in the designing department had he had a more intimate knowledge of actual construction conditions. He begins to see ways in which the construction men might be more efficient if they had a little better understanding of operating conditions. He decides that the more a member of the engineering department knows about construction and operating, and the more a member of the construction department knows about plant operation, the more efficient will be the work. By the time the plant is completed the engineering representative should know where every valve and underground line in the plant is located, and it is well that he does, for his next assignment is likely to be that of foreman of this plant when it is placed in operation.

Although his oiling and operating experience will prove of value when he is put in charge of the plant, he will realize now, more than ever before, how much there is that he does not know about plant operation. He is liable to find that just about everything that can happen to a plant, will happen in the first few weeks after starting up. The chances are that the plant will begin operating with the construction crew still on the job, and in addition he will have to break in a new operating crew. As foreman, he will be called upon to make decisions many times a day, and the responsibility of the plant will be in his hands. Once the crew has become familiar with the operation of the plant, he will spend much of his time in the engine room, and if the plant is a big one, he will probably have his hands full, and wish he knew a lot more about engines. New units will be added, changes will have to be made, and it will probably be two or three months before the plant is placed on a settled operating basis.

From this work it is possible that he will be transferred into the laboratory. This may be quite a welcome change after his strenuous work just completed. Here again, a new field is opened up to him. He will probably start off by running gasoline distillations, and will continue to do so until he becomes thoroughly familiar with the characteristics of the product. At the same time he may run tests on oil enrichments and will soon pick up a pretty good idea of the performances of the Company's various plants. His next assignment will probably he running charcoal distillations on royalty and plant tests. He will learn much about the gasoline content of the gas treated and also get a comprehensive conception of the efficiency with which the various plants extract the gasoline from the gas. He will also learn something of the nature of the gas by running tests for air content and specific gravity.

Gas Department Detail

Next he will probably work on chart computation and learn something about gas measurement, after which he will be sent out in the field to make plant tests, tests on prospective gas and gas from wells connected to the intake system.

Few departments of the business offer a better opportunity to form a comprehensive idea of operating conditions than the gas department. Here again in the plant test work especially, a knowledge of actual operating practice is of great value.

Our Squad member will barely have time to go through the various phases of the work of this department before it is time for him to take up his next assignment. This is liable to be in the nature of a three months' "trick" on the

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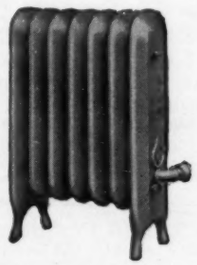
The tens of thousands of satisfied customers that our Organization has made through POTTER Gas Heating installations, is a JUST tribute to a satisfactory product—a gratification to conscientious effort.

THERE ARE MANY REASONS WHY IT IS BETTER TO INSTALL POTTER SYSTEMS



POTTER Vented Radiators

Only POTTER has these 7 POTTER Features (Cast Iron and Steel-Made)

1. Condensation abolished. This does away with corrosion. Many years are added to the life of the Radiator.
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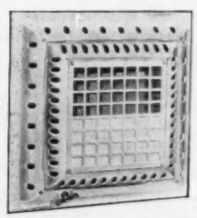

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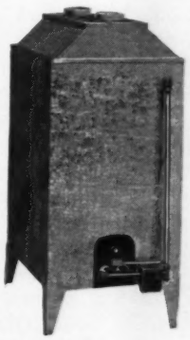
Made in heavy solid cast aluminum.

COLE is the only furnace manufactured that can be installed on either the first or second floor.



"MAGIC WAY" FURNACES

"MAGIC WAY" was the first, and has always been considered the leading Unit System of heating.

The principle of Unit Heating of modern buildings, brought to its present state of refinement through the study and efforts of this Organization, is based on the principle of an individual furnace or heater for each room or group of rooms to be heated.

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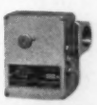
The low cost of adequate heating by means of "MAGIC WAY" Vented Furnaces of either the Unit or Central Plant type, will be a revelation.



"MAGIC WAY" VALVES

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repair crew. Here again, his operating experience will be of value, but he will realize that there is much that he did not learn while working around a plant. He finds that the only way to really learn anything about plant machinery is to work over it, take it apart, and put it together again. It is probably the most strenuous work he will do, but from the point of view of learning plant operation it is probably the most instructive. He will undoubtedly wish that he had had this training before being placed in charge of a plant. Nothing, in the writer's opinion, could be of greater value to a plant foreman or engineer than this repair experience. It would seem that operators in general might learn much of value if they would follow the work of the repair crew more closely while they are working around the various plants.

A Turn of Office Work

From the repair crew, the Squad member may possibly move into the warehouse or field office where he will learn something of "paper work." He will discover that all the forms, requisitions and reports that he has had to make out in his various jobs, are all designed for a definite purpose, namely, the accumulation and orderly assembling of facts pertinent to the conduct of the Company's business. He will realize how important it is for the proper gathering of data, to have reports sent in properly from the field. He will understand the difficulties the purchasing department has to contend with in trying to order material on incomplete requisitions. He will see many ways in which he could have cooperated more fully with the office in sending in data and reports from the field.

He cannot fail to realize another angle of the situation, namely, how much more comprehensive office work is, if the office man understands what is actually going on in the field and what the various reports and figures really mean. A man working in the office who has not had previous practical experience can well afford to take time to learn something of actual operating conditions. Figures mean little to him if he does not fully understand what they represent.

With the experience the Squad member has in all departments of the business, the office reports should prove very comprehensible. Here again, he is enabled to look upon the situation from an entirely different point of view. He has helped to plan a plant; he has helped to build and operate one; now he sees the results of the work, the daily production of all the plants, the cost of supplies, repairs and labor.

Work of Each Man Studied

Upon the completion of this training it would seem logical that the Squad member would prove a more valuable man to the Company than he would, had he spent all his time on one particular phase of work. The various types of work described are not necessarily the only ones in which members of the Squad will be placed; neither will the sequence be the same as in this particular case. Much will depend upon the inclinations and qualifications of the individual. It is the plan of the management to discover before a man has completed his course the sort of work for which he is best suited, and train him intensively along this line during the latter part of his training period.

The Training Squad course is not easy. Because of the highly diversified character of the various duties performed, a man is bound to have to do certain work that is irksome to him, but it is up to him to make as good a record as possible whether he likes it or not.

It is not the purpose of the Squad to develop versatile men, but rather to discover the work for which each individual is best suited, and at the same time give him a comprehensive idea of the business as a whole. There is no doubt in the mind of the writer that the Squad does accomplish this. The man who completes the training cannot help but realize its value. It would seem logical that the Company will also realize results from giving its employees an opportunity to become more familiar with its operations, and demonstrate by actual performance the type of work for which they are best suited.

Nothing could do more to impress upon one the value of cooperation between departments than this opportunity to work in all of them and study their relationship, one to another. An understanding of the other man's point of view does much to promote harmony, and the Training Squad experience cannot help but impress one with the importance of departmental co-ordination. If everyone on the Squad learns this, the Company will profit by the Training Squad plan. But the benefit should not stop there. The experience of the Squad man should also help to give this point of view to others with whom he works, and it is not inconceivable that the result of this attitude will make itself more evident as this spirit of cooperation and understanding permeates the organization.

The Training Squad plan is a broad-minded way of looking at business, and we hope it has come to stay.

J. S. COWARD LEAVES PORTLAND CO. SALES DEPARTMENT

J. S. Coward, who has been connected with the sales department of the Portland Gas and Coke Company for several years, is leaving Portland to join the sales force of Basford and Company of San Francisco.

WM. BAURHYTE ON TRIP EAST TO ATTEND CONVENTION

President Wm. Baurhyte of Los Angeles Gas and Electric Corporation has gone on an Eastern trip in the course of which he will attend the annual convention of the American Gas Association, at Atlantic City, and a meeting of the executive committee of the National Electric Light Association to be held in Chicago.

WM. A. CYR LEAVES SAN DIEGO GAS COMPANY

Wm. A. Cyr, editor of the News-Meter, official organ of the San Diego Consolidated Gas and Electric Company, is leaving his present employ to join the editorial staff of the Journal of Electricity, published at San Francisco. Although he regrets severing pleasant relationships with the San Diego Consolidated Gas and Electric Company, he feels that the associate editorship of the electrical publication constitutes a step up in his chosen profession of journalism.

R. A. TURNER LEAVES COLORADO GAS COMPANY

Robert A. Turner has resigned from his position in the publicity department of the Public Service Company of Colorado to become general advertising agent for the Seaboard Air Line Railroad Company at Norfolk, Va.

MISS EDNA YAGER IN CHARGE OF OFFICE FOR SO. CAL. CO.

Miss Edna Yager is now in charge of the new Bellflower branch office for the Southern California Gas Company. Miss Yager was formerly assistant to Secretary Rogers of the Bellflower Chamber of Commerce. After some weeks in the Downey office, learning about the Southern's methods, she opened the Bellflower office on September 17.

FIRST HORTONSPHERE HOLDER FOR ARIZONA GAS CO.

The Central Arizona Power and Light Company has in operation the first Hortonsphere gas holder that has been built. The holder is of 300,000 cu. ft. capacity with the gas at a maximum pressure of 50 lbs. per square inch.

The Hortonsphere, an invention of George T. Horton, reminds the observer of a mammoth toy balloon, being spherical in shape, to capitalize on the tendency of all holders to assume this shape when under pressure. This type of holder, built by the Chicago Bridge and Iron Works, is available also for storage of natural gas gasoline. Description of the construction may be had by application to the manufacturers.

COKE PUSHER AND ELEVATOR FOR WALLA WALLA PLANT

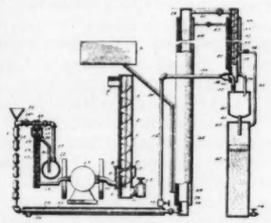
A coke pusher and elevator will shortly be installed at the Walla Walla gas plant of the Pacific Power and Light Company. Coke quenching apparatus will also be purchased, and a new roof will be constructed over the retort house.

METAL STRIPPING MACHINE FOR SALE

A stripping machine for cutting sheet metal manufactured by the D. J. Whelan Estate, Troy, N. Y. Adjustable and will take sheets up to 3 feet in width. The address of the company having this machine for sale can be had upon application to the Secretary of the Pacific Coast Gas Association, 447 Sutter Street, San Francisco California.

THIS MONTH'S PATENTS PERTAINING TO THE INDUSTRY

1,540,963. PROCESS FOR SEPARATING GAS FROM LIQUIDS. CHARLES F. W. TABLER, Tampico, Mexico. Filed Mar. 26, 1924. Serial No. 702,117. 7 Claims. (Cl. 183—114.6.)



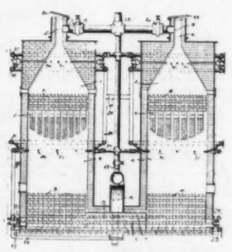
1. A process for extracting gasoline from gases, which comprises centrifugally separating and eliminating the greater and dry portion from the heavier portions carried by said gases under low pressure, increasing the pressure of the concentrated gases and again centrifugally separating and eliminating discoloring matter from the gases, washing and cooling said gases, further chilling said concentrated gases while centrifugally separating the gasoline and foreign matter from the remaining gases, expanding the separated gasoline for chilling the concentrated gases and gasoline when being washed and during the final stages of the centrifugal separation of the gasoline from said gases

1,532,932. PRESSURE GAUGE. JOHN R. PADESKY, La Crosse, Wis., assignor to National Gauge & Equipment Company, La Crosse, Wis. Filed Feb. 26, 1924. Serial No. 695,312. 1 Claim. (Cl. 73—109.)

In a pressure gauge, a graduated dial, a pivoted unitary yoke device comprising a crank arm and pointer, the crank arm being located above the pivoted end of the pointer, said crank arm having a slot extending in line with the pointer, a Bourdon tube and a metallic member having one end thereof rigidly connected with said tube and the other end thereof provided with a hook engaged in said slot, said member being also provided with a return bend intermediate its length, said member being of bendable material, for the purpose specified.

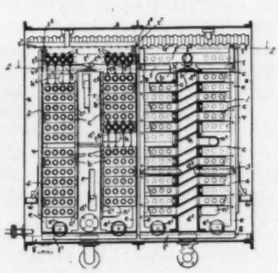
1,540,541. OIL GAS-MAKING APPARATUS. WILLIAM E. L. CALVIN, San Francisco, Calif., assignor of one-half to Joseph Vellone, San Francisco, Calif. Filed May 31, 1923. Serial No. 642,455. 5 Claims. (Cl. 48—94.)

1. In a gas making apparatus, a plurality of vertical vessels each having a grill partition dividing the vessel into upper and lower chambers, the said lower chambers cross-connected by a gas making and fixing passage having a gas outlet, checker brick in said chambers and in said passage, a valve controlled air inlet to and a



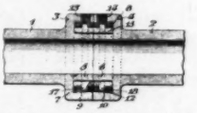
valved outlet from the top of each upper chamber and steam and oil spray nozzles in each of the upper and each of the lower chambers.

1,526,605. HEAT-EXCHANGING APPARATUS. PERCY MATHER, London, England. Filed Jan. 4, 1922. Serial No. 527,024. 10 Claims. (Cl. 257—185.)



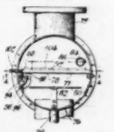
1. In a heat exchanger a nest of evaporator tubes comprising vertical series of evaporator tube sets that are horizontally disposed and so connected to vertical columns at opposite ends of the nest that the heat yielding fluid may circulate successively through evaporator tube sets on opposite sides of the nest as in a coil, substantially as described.

1,540,504. PIPE COUPLING. LLOYD M. SEAMAN, Pleasantville, N. J. Filed Mar. 2, 1921. Serial No. 449,028. 7 Claims. (Cl. 285—144.)



1. A pipe coupling comprising abutted pipe sections each having end nipples embraced by bell-shaped flanges forming an annular pocket, for the reception of sealing material, and a thimble for said nipples, arranged to be embedded in said sealing material.

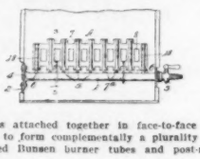
1,541,514. PROCESS OF AND APPARATUS FOR RECOVERING GASOLINE OR OTHER HYDROCARBON LIQUIDS FROM NATURAL GAS. WILBUR G. LAIRD, New York, N. Y., assignor to Henry L. Doherty, New York, N. Y. Filed June 24, 1919. Serial No. 306,391. 6 Claims. (Cl. 183—114.6.)



1. A process of absorbing hydrocarbon vapors from natural gas comprising passing an absorbent liquid horizontally as a thin layer of foam and forcing natural gas through the layer of foam

1,536,590. BURNER FOR GAS HEATERS. HENRY KIELBERG, Martins Ferry, Ohio, assignor to Whitaker-Glessner Company, Wheeling, W. Va., a Corporation of West Virginia. Filed Apr. 13, 1923. Serial No. 631,750. 1 Claim. (Cl. 158—106.)

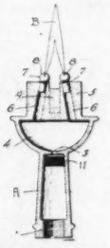
In a gas heater, the combination with a heater casing, of a gas supply tube disposed horizontally within said casing, relatively spaced nozzles carried by said tube, upright posts carried by said tube adjacent to its opposite ends, supporting members carried by said tube intermediate said posts and a burner element superposed upon said supporting members and having engagement with said posts, said element comprising companion sheet



metal plates attached together in face-to-face relation and shaped to form complementally a plurality of relatively spaced Bunsen burner tubes and post-receiving sleeves.

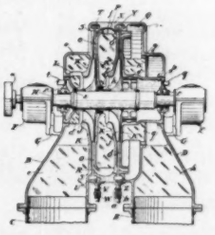
1,536,818. GAS-LIGHT BURNER. FRANCIS DE GROCHY, Newark, N. J. Filed Feb. 14, 1922. Serial No. 536,462. 2 Claims. (Cl. 67—87.)

1. A gas-light burner including a body portion having a pair of spaced converging burner outlets the flames from which merge together, said body portion being provided at opposite sides thereof between said burner outlets with substantially parallel grooves disposed substantially in the plane bisecting the angle formed by the convergance of said outlets and opening through the top of said body portion, whereby the heat from said flame draws a current of air upwardly through each



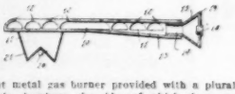
of said grooves into the space between said burner outlets where said currents impact with each other and spread into said flames.

1,532,118. TAR EXTRACTOR. LEWIS C. BAYLES, Easton, Pa., assignor to Ingersoll-Rand Company, Jersey City, N. J., a Corporation of New Jersey. Filed Apr. 26, 1924. Serial No. 709,113. 1 Claim. (Cl. 183—77.)



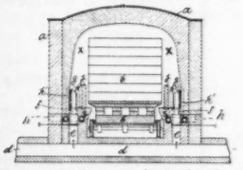
A combined exhauster and tar extractor for gas comprising a casing, an impeller rotatably mounted in said casing, a diffuser extending radially from said impeller and curved at its outer end, an annular chamber in said casing adjacent said diffuser and a slot in alignment with the radially extending portion of said diffuser adjacent said curved end and leading into said annular chamber whereby tar is projected from said diffuser into said slot.

1,541,716. GAS BURNER. EFFIE J. JOHNSON, Kankakee, Ill. Filed Apr. 3, 1924. Serial No. 704,024. 1 Claim. (Cl. 158—99.)



A cast metal gas burner provided with a plurality of concentric chambers, the sides of which slope upwardly and have outlets in the top, and a radial fuel-supply passage in communication with the several chambers and gradually increasing in depth from the center outwardly, said passages being the sole means of communication between the chambers.

1,541,647. GAS-FIRED OVEN OR KILN. JOHN HENRY MARLOW, Stoke-on-Trent, England. Filed Mar 16, 1921. Serial No. 452,876. 5 Claims. (Cl. 25—142.)

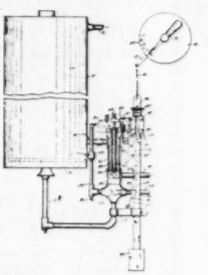


1. In a tunnel kiln, means for heating the same by gaseous fuel, comprising a transverse flue which is connected with a gas supply, gas supply openings between the flue and vertical burner tubes which communicate with the gas supply, ways having outlet openings on different horizontal planes for supplying air about the burner tubes, and a wall which extends vertically above the open upper ends of the burner tubes.

1,537,001. SAFETY VALVE FOR GAS JETS AND THE LIKE. HERBERT BENVIE, Meriden, Conn., assignor of one-half to Russell H. White, Meriden, Conn. Filed Jan. 6, 1922. Serial No. 527,526. 3 Claims. (Cl. 284—13.)

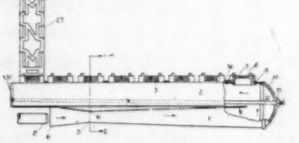
1. A safety valve comprising a casing having a passage therethrough, one end of the casing being constructed for receiving a hose, a valve seat mounted in the casing, a spring-controlled plunger movably mounted in the casing normally coacting with the valve seat to close the casing passage, means carried by the plunger for engaging the casing to retain the plunger in an inactive position, and means movably mounted on the casing capable of operation by the movement of the hose for releasing the plunger

1,535,193. AUTOMATIC WATER-HEATER CONTROLLER. ALFRED WILD, Milwaukee, Wis. Filed Jan. 18, 1924. Serial No. 687,116. 8 Claims. (Cl. 126—35.)



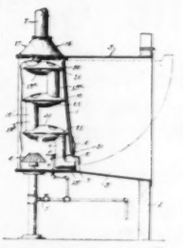
1. An automatic water heater controller comprising a water heater having a gas burner and means for lighting the same, a boiler and a controller to which the water pipes of the heater are connected to provide a back and forth circulation of water from the heater to the boiler and through the controller, a thermostatic means controlled by the temperature of the circulated water for stopping the supply of gas to the burner when the temperature of the water flowing through the controller reaches a predetermined degree, means indicating different temperatures and easily operable from a distant point for selecting the degree of temperature at which the supply of gas to the burner will be stopped, and a pilot light thermostatic means coacting with the first mentioned thermostatic means and the distant point operating means for stopping the supply of gas to the burner when the lighting means is not in operation.

1,540,678. GAS BURNER. BERRY A. BANTER, Mansfield, Ohio. Filed July 24, 1924. Serial No. 727,879. 2 Claims. (Cl. 158—104.)



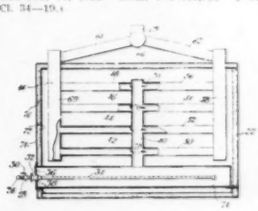
1. A gas burner of the radiant type, comprising a body formed with an elongated opening in the upper portion with transverse spaced portions, burner tips arranged in alinement longitudinally of such opening, each adjacent pair of burner tips having projections on their remote ends to engage beneath certain spaced portions, and flanges on their adjacent ends to bear upon one such spaced portion, and a single means engaging both such flanges to confine the pair of burner tips to the body.

1,541,512. GAS HEATER. ALBERT A. KNISELEY, Detroit, Mich. Filed Apr. 17, 1924. Serial No. 707,134. 5 Claims. (Cl. 126—90.)



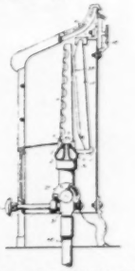
1. A heater for a building comprising a housing opening through a wall of the building to atmosphere, a heater at the inner end of the housing, a door extending across the housing and shielding the heater from external atmosphere, said door adapted to be opened to expose the heater to atmosphere and when closed being spaced from the bottom wall of the housing providing for an ingress of air to the heater, said heater including a burner and a series of chambers and pipe sections connecting the same providing a conduit, the conduit opening to atmosphere below the door edge and discharging to the space to be heated, and an exhaust conduit for the gases of combustion leading to the exterior of the building.

1,536,427. HEATING APPARATUS FOR GAS-FIRED OVENS. ALBIN MALMRAS DEGNER, Brooklyn, N. Y., assignor, by mesne assignments, to Combustion Utilities Corporation, New York, N. Y., a Corporation of Maine. Filed Jan. 16, 1923. Serial No. 612,922. 9 Claims. (Cl. 34—19.)



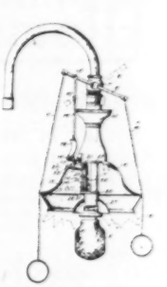
8. An oven, elongated, horizontal combustion chambers positioned in the lower portion of said oven and extending from the front to the rear of said oven, distributing flues extending upwardly from said combustion chambers, branch flues extending forwardly and rearwardly of said distributing flues, collecting flues to receive gases from the ends of said branch flues and means to vary the volume of gases passing through flues at different levels or for concentrating the flow of gases to the rear or front flues.

1,540,528. RADIANT GAS HEATER. GEORGE E. BEVITT, New York, N. Y., assignor to Peerless Manufacturing Company, Louisville, Ky., a Corporation of Delaware. Filed Jan. 21, 1925. Serial No. 2,719. 12 Claims. (Cl. 126—92.)



1. In combination a Bunsen burner having a group of ports arranged relatively close together with a secondary air space between adjacent ports, and a radiant supported above the group of ports and spaced from the burner to provide a secondary air space between the lower end of the radiant and the burner.

1,540,294. GAS LIGHTER. PASQUALE STELLA, Chicago, Ill., assignor of one-half to Charles Amico, Chicago, Ill. Filed Nov. 3, 1923. Serial No. 672,543. 3 Claims. (Cl. 67—20.1.)



1. A gas lighter comprising a reciprocating rod, a gas valve, means for reciprocating said rod in conjunction with the operation of the gas valve, an ignition element carried by the rod disposed perpendicular thereto, an abrasive element secured adjacent the gas discharge, and resilient means engaging the reciprocating rod to force the ignition element into frictional engagement with the abrasive member.

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Hot Water in One Minute

Two Sizes for 30 to 60 gallon tanks.

Two Colors, Black Japan or Gray Enamel

A Western Product

Sold Through Dealers Only

Manufactured by

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THE LATEST

Hammel

Gas Steam Radiators

Unit System of Heating — Steam Heat in Ten Minutes

WE ARE now able to offer some very profitable territory to dealers who can qualify. The *Hammel* line offers a very liberal profit and its repeat orders will build a substantial business for you.

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Natural Gas Gasoline Operations

ONE hundred and thirty-seven natural-gas gasoline plants, with a daily indicated capacity of 1,038,000 thousand cubic feet, of a total of one hundred and forty-six plants operating in California in August report a recovery of 25,707,673 gallons of natural-gas gasoline from 21,719,842 thousand cubic feet of gas treated.

Of the quantity of natural-gas gasoline produced 8,386 barrels were run to storage leaving a net utilization of 603,701 barrels, of which 45,454 barrels are unaccounted for in the reports received by the Bureau of Mines. This quantity of natural-gas gasoline was presumably disposed of to blenders and refiners not reporting to the Bureau of Mines at present.

Stocks of natural-gas gasoline at the end of August amounted to 162,125 barrels of which 25,634 barrels were reported by natural-gas gasoline plant operators and 136,491 barrels by refinery operators. This is an increase of 8,386 barrels over July stocks.

Gasoline Output Less

The production of gasoline during the month of August amounted to 146,329,770 gallons, a daily average of 4,720,315 gallons. This is a decrease of 6,311,783 gallons of 4.1 percent under July output. Of this production 250,814 gallons were reported as finished gasoline produced by natural-gas gasoline plant operators. Compared to the production in August, 1924, an increase of 46,374,484 gallons or 46.4 percent is noted. Of the gasoline produced 654,248 gallons were from using either a cracking or synthetic process and 145,675,522 gallons from other processes.

Stocks of gasoline show a decrease of 6,097,533 gallons during August and at the end of the month amounted to 381,257,936 gallons. This stock figure includes 25,966 gallons of finished gasoline reported by natural-gas gasoline plant operators.

U. S. STOCKS OF NATURAL GASOLINE—AUGUST 31

Natural gas gasoline stocks in the United States, as of August 31, 1925, reached a total of 162,125 bbl.

BLENDED AT CALIFORNIA REFINERIES

During August a total of 306,482 bbl. of natural gas gasoline were blended at California refineries.

NATURAL-GAS GASOLINE PRODUCTION AND DISTRIBUTION FOR CALIFORNIA, AUGUST, 1925

Type of Plant	Gas Treated (Thousand Cu. Ft.)	Natural-Gas Gasoline Produced Gallons.	Gasoline Recovery (M.C.F. Gas Treated)
Oil Absorption	9,005,273	9,952,693	1.105 gal.
Compressor	448,777	416,275	.928 gal.
Combination Compressor and Oil Absorption	10,692,071	14,916,679	1.395 gal.
Combination Oil and Charcoal Absorption	1,573,721	415,669	.264 gal.
Drip		6,357	
Totals	21,719,842	25,707,673	1.184 gal.

Natural-Gas Gasoline Distribution		
Stocks First of Month		153,739 bbl.
Production During Month		612,087 bbl.
Quantity mixed with Crude or Unfinished Oils	230,859 bbl.	
Used in Blending at Refineries	306,482 bbl.	
Stocks End of Month	162,125 bbl.	
Used at Plants, Shortage and Evaporation Losses	20,906 bbl.	
Balance*	45,454 bbl.	
Totals	765,826 bbl.	765,826.bbl.
Finished Gasoline Produced at Plants	250,814 gal.	
Stocks End of Month Held by Natural-Gas Gasoline Plant Operators.		
Natural-gas Gasoline	1,076,627 gal.	25,634 bbl.
Finished Gasoline (Motor Fuel)	25,966 gal.	
Stocks Natural-gas Gasoline held by Refiners	5,732,622 gal.	136,491 bbl.
Total		162,125 bbl.

*Disposition of this balance was not accounted for in the reports received. It is presumed to have been disposed of to Blenders and Refiners who are not at present reporting to the Bureau of Mines.

E. P. RAMSAY NAMED ADVERTISING AGENT FOR L. A. G. AND E.

E. P. Ramsay, formerly assistant to D. L. Scott in the advertising department of the Los Angeles Gas and Electric Corporation, now has the title of advertising agent for the Los Angeles utility.

UTAH GAS AND COKE ISSUES TWO NEW ORGANS

Half-way measures evidently do not content the Utah Gas and Coke Company. Five months ago the first issue of "The Utagas Pilot," devoted to the gas consumers of the company, came into being, and now we learn of the launching of a second publication, called "Tid Bits," which is to circulate among the employees of the utility.

BEET SUGAR COMPANY USING 3,000,000 CU. FT. OF GAS

The American Beet Sugar Company at Oxnard, Calif., is using 3,000,000 cu. ft. a day of dry gas supplied by the Southern Counties Gas Co. Gas has been substituted for fuel oil in the operation of the factory, and its use will continue throughout the 1925 refining season. A gas line eight to ten miles long was constructed to deliver the gas to the sugar company.

BRANCH OFFICE AT LA MESA FOR SAN DIEGO COMPANY

The San Diego Consolidated Gas and Electric Company has recently purchased a site in La Mesa for the erection of a branch office, according to a statement of A. E. Holloway, superintendent of the commercial department for the company.

Furthering *of* Employees' Activities

(Continued from Page 9)

ning June 24th, by the various engineers and department heads whose work was covered in the course. Multigraphed synopses of the subjects were also given the student to aid his study.

Remarkable Examination Record

The examination was held on August 3rd, with 110 men from practically all departments participating. The results were very interesting. The winner of the Portland trip, N. H. Bradshaw, accountant, made the almost perfect score of 99½%. All of the twenty and 25 others made grades between 80% and 90%. This meant that there were a total of 45—nearly half of those taking the examination — who came through with a mark of over 80%. We feel that this was a remarkable record, especially when the subjects covered by the course of study are taken into consideration. Furthermore, the interest aroused among employees in the course and in the Corporation's general activities, even though many who enrolled did not carry on to the end, was very gratifying to the management.

Now we can come back to our "Tales of Portland" meeting.

It was pleasing, and yet rather surprising, too, to see the number of our employees who were interested in the doings of the P. C. G. A. and attended this gathering to hear some of the things that their industry is doing, as brought out at the Portland convention. Many of the men belong to the Association, and their interest, of course, was to be expected. The great majority of those present, however, were employees who had no Association connections and who were looking for knowledge.

Convention Reviewed

A regular program had been prepared and was carried out. Mr. A. B. Day, vice-president and general manager of the Corporation, opened the meeting with a talk on the history and purposes of the Pacific Coast Gas Association. President Wm. Baurhyte told about the entertainment provided at Portland, a feature of the convention which had greatly impressed him. There was music by the customers' department orchestra, and then the men who had represented Los Angeles Gas and Electric Corporation gave their reports of the various sessions and departments in which they participated or attended. Gas Engineer H. L. Masser, talked on "Oil Sprays, Reforming Gas and Naphthalene Removal"; Steam Engineer C. H. Wilcox discussed "Steam Production and Gas Purification"; Ceramic Engineer H. J. Knollman spoke on "Refractories"; Accountant N. H. Bradshaw—the examination high man—reported on the Accounting Section sessions; Manager Customer's Department O. L. Moore told of the General and Public Relations sessions; and Superintendent Gas Distribution

(Continued on Page 36)

Proper Installation *Is* Imperative

(Continued from Page 19)

made, with a just portion of the costs of such supervision being borne by the manufacturers and dealers who furnish the equipment. This plan would put the responsibility for the installations in the hands of what should be the most disinterested of the three groups in the industry—the gas company; and yet it would not impose the full burden of maintaining the necessary inspection service upon the gas company, but would divide it among all three groups. Thus all these groups, sharing alike as they will in the benefits and profit-making development that will come when this inspection of installations begins to show results, will likewise contribute to its cost. Such a plan as this seems to me the most logical of any that have yet been proposed.

Until some such plan of action is put into effect, however, manufacturers and dealers must subject their own installations to a rigid inspection and make certain that the equipment they install will not fail to give satisfactory service because of faulty installations. The price on any job should include the cost of the kind of installation that is best for that particular job, and taking jobs where "cheap" installations are required should be avoided. Manufacturers may aid in raising standards by refusing to sell their products to any dealer whose installations do not come up to the desired level. Expert men, trained in gas engineering, should install heating equipment, and every step in the installation should be done under closest supervision. Such methods, while naturally more expensive than the slap-dash, inefficient and often criminally careless practice which has caused such incalculable harm to the gas industry, pay for themselves many times over in the long

OIL METERS

The EMPIRE

Positive displacement, oscillating piston design.

Different from every other type of meter.

Unsurpassed in over forty years for accuracy, durability, and low cost of upkeep.

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Cochrane steam and oil separators
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Griscom-Reilly-Russell Heaters, Evaporators, Distillers, Multi-Whirl Coolers
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Diamond soot blowers
Lagonda tube cleaners
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Salt Lake City, Kearns Bldg. Honolulu, T. H. Phoenix, Heard Bldg.
Vancouver, B. C., Standard Bank Bldg.

run. This we know from experience. Nothing will sell gas heating equipment more rapidly, nor create more widespread good will for the whole industry, than the enthusiastic "boosting" of a thoroughly satisfied owner; and, conversely, nothing will ruin sales more quickly, nor harm the entire industry so much, as a dissatisfied owner of gas heating equipment which may never have had a chance to make good.

Building Permanent Success

Our experience has convinced us, if we ever needed conviction, that it is only by the application of such methods as these by the entire gas industry that any permanent success can be built. We are in competition with powerful forces, and every time we slip from what we know to be the best standards, whether inadvertently or by calculation, we lose the advantage by just so much to our competitors in the heating field. It is unfair that the whole industry must be made to suffer because of the thoughtless or careless acts of a few who are causing trouble. Either the public will put a stop to poor installations, or the gas industry will. By all means let us beat the public to it, and so supervise our installations that the public will have no cause to distrust the safety of gas appliances, or to complain on the score of their inefficiency.

The Natural Gas Situation *in* Colorado

(*Continued from Page 15*)

cated closest to the field will naturally be the first supplied. Are you ready for it? You are not unless your plans are perfected for selling it at a rate that will earn a fair return on each and every part of the investment required, and which will cause every customer to pay his fair and just proportion of all expenses involved in the service he receives.

A. B. MACBETH NOW VICE-PRES. OF AMERICAN GAS ASSN.

A. B. Macbeth, executive vice-president of the Southern California Gas Company, has been elected vice-president of the American Gas Association by the board of directors of that organization to fill the unexpired term of C. L. Holman, whose resignation recently became effective. Mr. Macbeth will attend the coming convention of the A. G. A. at Atlantic City.

REMARKABLE METER READING RECORD MADE IN SAN DIEGO

A meter reading every 13 seconds is the modest record recently set up by J. C. Bivins, meter reader for the San Diego Consolidated Gas and Electric Company. Mr. Bivins turned in an accurate reading of 822 meters, made in three hours, including time going to and returning from work. In his territory are included 21 straight blocks and 20 blocks of cross streets. Needless to say, he is an expert in his line, and can read accurately at all distances up to 50 feet.

Pacific Power *and* Light Co. Holds Sales Convention

A GOOD example of the live selling policy pursued by the Pacific Power and Light Company is seen in the sales and service convention held August 12, 13, and 14 at Walla Walla. Practically every district in the system sent one salesman and one service man to the meeting.

Each session of the convention was given over to discussion of an appliance, such as a particular type of gas range or water heater. Talks on the various appliances were given by authorities, following which the sessions were open to questions from the floor. Appliances were torn down in order that construction features might be noted.

Guy W. Talbot, president of the company, and Lewis A. McArthur, vice-president and general manager, both were present from the Portland office and spoke during the convention on the necessity for sales activity throughout the company system. Mr. Hawkins discussed merchandising in its relation to the accounting department, and pointed out several instances where closer co-ordination might be secured.

W. A. Lackaff, purchasing agent, explained where to send orders for replacement of defective material for appliances. V. H. Moon, appliance sales superintendent, outlined merchandising plans for the remainder of the year and also spoke regarding the merchandise record and prospect cards that are being developed throughout all of the districts on the company's lines.

It is felt that this recent convention is a forward step in appliance selling, as it is the first effort of its kind that the company has made to bring both sales and service men together with manufacturers' representatives for the discussion of appliance problems. It is intended to carry on similar meetings from year to year.

Union Oil *to* Test Three Absorption Towers

TESTS to determine the relative efficiency of three representative types of oil absorption towers are soon to be under way at the Long Beach Plant No. 1 of the Signal Hill Gasoline Company, which is affiliated with the United Oil Company.

The three types of towers chosen for the test are said to represent the latest development in oil absorption practice, and will operate under similar conditions, in order that a signficant comparison of results may be secured. All three towers are rated at the same capacity.

The work contemplated will involve a great amount of detail testing of both gas and oil distillations, and several other operators are lending their cooperation in making the tests, expecting to derive considerable benefits in future operating practice from the results achieved.

No gas tests will be made until the system comes to an equilibrium and a set of conditions for the tests has been completely established. Then gas will be run for a specified period of time and will be tested continuously, to avoid the uncertainty of "grab" tests. Fifty cu. ft. capacity continuous gas samplers are provided for this testing.

The third tower is practically set at present writing, and the tests should be in progress in the near future.

R. R. Brandenthaler, who was geologist for the Midway Gas Company has joined the United States Bureau of Mines. L. M. Spencer is now geologist for the Midway.

"Miss California" Leads the Way

LUSCIOUS peaches are ripe and waiting to satisfy that taste for the "sweets" of nature.

This season, they are plentiful and the price is low. So eat as many as you want—eat them whole—eat them sliced with rich cream—then preserve some as summer "treats" for winter days.

Modern methods—especially with the oven temperature-control of the improved gas ranges—make home-canning easy and economical.

Tell your dealer —TODAY— what fruit you'll need for home-canning.

PACIFIC GAS AND ELECTRIC COMPANY

P·G·and E·

"PACIFIC SERVICE"

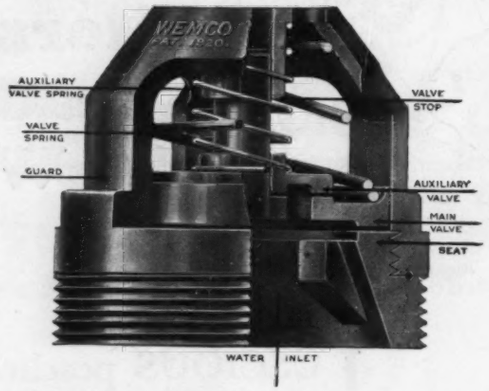
218-825

One of the cooperative advertisements published in all newspapers in the Gas territory served by the Pacific Gas and Electric Company.

"WEMCO" Double Pump Valve

For SIMPLEX and DUPLEX PUMPS

EFFICIENT



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NOW BEING USED BY—

Pacific Gas & Electric Co.	Galena Signal Oil Co.
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If you will give us the make and size of your pump and general conditions we will gladly submit a report showing the saving we can make for you.

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You can order fittings of any kind for immediate delivery from our large stock.

We also produce:

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Is the Association Useful *to* Appliance Dealers

(*Continued from Page* 17)

one of ours." These things are forbidden and the dealer should know it. His contact with the gas company should be such that he could not help but know it. It is up to the gas company to establish this contact and it is up to the gas appliance dealers in the Association to see that the gas companies repair such weaknesses.

The Association is preparing to study this problem, and correspondence in regard to it is invited.

Furthering *of* Employees' Activities

(*Continued from Page 33*)

W. M. Henderson covered the activities of the Gas Distribution and Commercial Sections.

By such a program a great deal was accomplished. The men who are members of the Association, but who seldom, if ever, can attend a convention, gained useful information about the industry and could feel that they were in a way sharing in the convention activities. Those employees who were not members of the Association also received much useful and interesting knowledge, but more than that, they were given an insight into Association activities and what the organized gas industry is accomplishing, thereby arousing in them the desire to share in these activities.

An L. A. Service Group

All of this leads up naturally to another fine thing which was brought about at this meeting—the organization of an "L. A. Service Group of the Pacific Coast Gas Association." The purpose of this group is to band together those employees of Los Angeles Gas and Electric Corporation who are members of the Association in an organization which will enable these men to have a closer interest and really play a part in Association affairs and the activities of the gas industry. In addition, at this particular time such a group will be able to give intelligent and interested aid in the preparation for and carrying out of the 1926 convention which is to be held in Los Angeles. The members of the L. A. Service Group also can and will stimulate their fellow-employees to become members of the Association and share the good to be derived therefrom. At the present time, the plans of the Group have progressed to the point of appointing an executive committee and adopting a constitution, and the members are enthusiastic over opportunities afforded them by the new organization.

Can We Do It Better *with* Gas? Confidence Needed

(*Continued from Page* 12)

gas appliance store or a furniture house or a plumbing shop.

There are gas companies, manufacturers and salesmen, many of them who have this confidence in the industry, and on the shoulders of these few have rested all of its burdens. The ranks of the men with vision need new recruits, and until these recruits are forthcoming no great progress can be made.

The electrical industry can find a place for the man who is sold, first last and always on electricity; the oil burner business will receive with open arms the oil burner enthusiast; and the gas industry can well afford to dispense with all in its ranks save those who believe that "you can do it better with gas."

A. G. A. Convenes *in* Annual Session, Oct 12 *to* 16

(*Continued from Page* 11)

Accommodations for visitors in Atlantic City have been increased considerably since the convention of last year, many of the hotels along the famous boardwalk, and several others in different sections of the city having completed additions. Reduced fare privileges are available on several railway lines to A. G. A. members and their immediate families.

The American Gas Association and those who have previously sampled Atlantic City hospitality join in urging western gas men to come eastward in October.

MIDWAY COMPRESSOR STATION UNDER WAY AT VENTURA

Work has been commenced on the Midway Gas Company's Ventura compressor station. It is to occupy two acres of a lemon grove, located on the Nordoff Road, in the northwest corner of the General Petroleum Barnard Lease, near Ventura. The first unit of the plant will consist of twelve, one hundred and sixty horsepower direct-driven Cooper gas engines. Work on this unit will be completed by November 15. This first section will enable the Midway to handle the entire amount of gas covered by present contracts. The cost will be approximately $250,000. Edward Cole is to be superintendent of the Ventura division and R. E. Haun will act as assistant superintendent.

GAS HAS 100TH ANNIVERSARY IN NEW YORK CITY

Just one hundred years ago the first mile of gas mains was laid down Broadway, New York City, in accordance with a franchise granted two years previously. Popular distrust of the innovation was so great that the promoters gave public demonstrations of gas lighting for some time before laying the mains.

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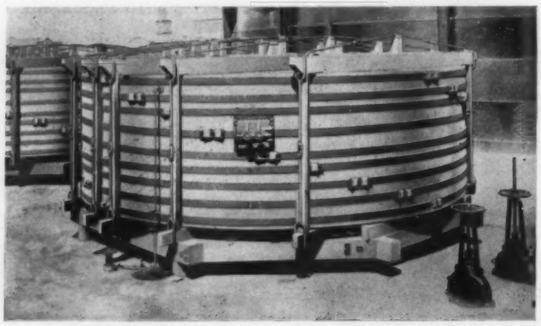

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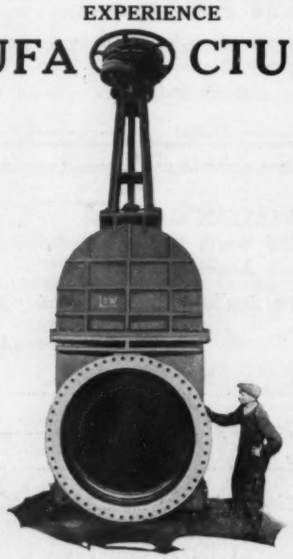

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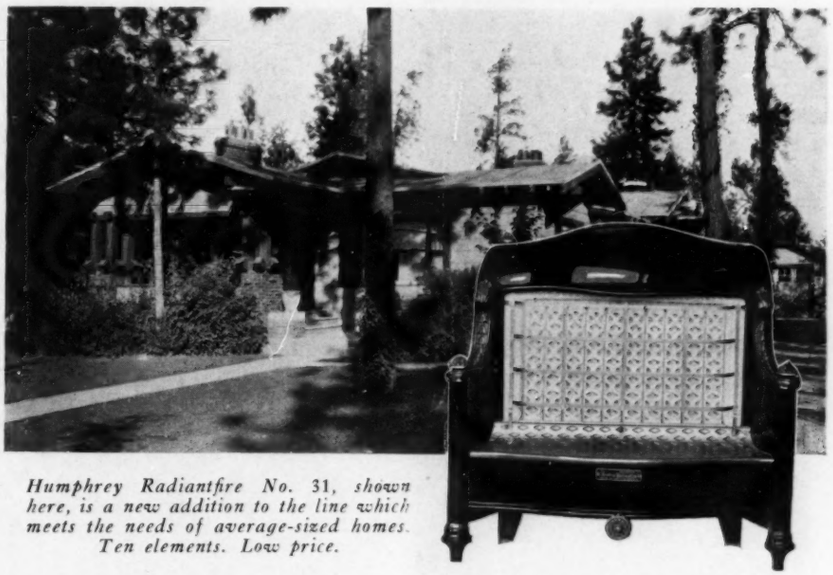

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